



October 2, 2020

Florida Public Service Commission  
2540 Shumard Oak Blvd.  
Tallahassee, FL 32399-0850

**Re:** Docket No. 20200000-OT, REQUEST FOR COMMENT FOR EV WORKSHOP/SB 7018

Dear Chairman Clark, Commissioners Brown, Graham, Fay, and Polmann:

Southern Alliance for Clean Energy (“SACE”) respectfully offers the following comments to the Commission to help inform it as it considers the master plan for the development of electric vehicle (“EV”) charging station infrastructure along the State Highway System.

SACE is a regional 501(c)3 membership organization that promotes responsible energy choices to ensure clean, safe, and healthy communities throughout the Southeast. SACE advocates for a low-cost, low-risk clean energy future. Ramping up electrification of transportation is a critical component of realizing that future.

**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.**

SACE does not project EV use in Florida, relying instead on utility and industry forecasts.

**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.**

SACE does not project charger demand in Florida, relying instead on utility and industry forecasts.

SACE does, however, believe that charger projections should align with Florida's current and forecasted housing makeup. It is commonly understood that over 80% of EV charging happens at home. Not all Floridians, however, have access to home charging. This lack-of-access most often results from living in multifamily dwellings or in neighborhoods that lack off-street parking or being a renter without approval to install home charging.

For example, consider 2015 data from the University of Florida's Shimberg Center for Housing Studies that shows 22% of Florida residents lived in multifamily dwellings.<sup>1</sup> Most multifamily dwellings lack access to charging infrastructure, which undermines residents' ability to charge an EV at home and increases the need for accessible public charging. Tools that calculate public EV infrastructure demand, such as the U.S. Alternative Fuel Center's EVI Pro Light, allow for adjusting the percentage of EV drivers with access to home charging.<sup>2</sup> This variable is critical to get right.

To make the point, here are two outputs from the EVI Pro Light tool based on the current number of EVs in Florida as of August 2020, an average mix of EV types, and full support of all-battery and plug-in hybrid EV charging needs. The only change in these two analyses is the percent of EV drivers with access to home charging.

Here is the result if 100% of EV drivers have home charging access:

---

<sup>1</sup> <http://www.shimberg.ufl.edu/publications/tab2.pdf>

<sup>2</sup> <https://afdc.energy.gov/evi-pro-lite>

## Your Results

In Florida, to support 64,535 plug-in electric vehicles you would need:

**2,692** Workplace Level 2 Charging Plugs

**2,153** Public Level 2 Charging Plugs  
*There are currently 3,463 plugs with an average of 2.6 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).*

**206** Public DC Fast Charging Plugs  
*There are currently 761 plugs with an average of 3.9 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).*

### Where Do I Start?

Planners may want to prioritize installation of fast charging infrastructure above Level 2 charging.

**Build DC Fast First:** Establishing fast charging networks that enable long-distance travel, serve as charging safety nets, and provide charging for drivers without home charging is critical to support all-electric vehicles that have no other alternative for quickly extending their driving range.

**Build Level 2 Second:** EVI-Pro typically simulates the majority of Level 2 charging demand coming from plug-in hybrid electric vehicles, which have the ability to use gasoline as necessary for quickly extending driving range.

### Change Assumptions

Plug-in Electric Vehicles (as of 2016): 20,200  
 Light Duty Vehicles (as of 2016): 16,175,500  
**Number of vehicles to support**

---

**Vehicle Mix**

Plug-in Hybrids 20-mile electric range	<input type="text" value="15"/> %
Plug-in Hybrids 50-mile electric range	<input type="text" value="35"/> %
All-Electric Vehicles 100-mile electric range	<input type="text" value="15"/> %
All-Electric Vehicles 250-mile electric range	<input type="text" value="35"/> %
<b>Total</b>	<b>100%</b>

---

How much support do you want to provide for plug-in hybrid electric vehicles (PHEVs)?

**Full Support**  
 Most PHEV drivers wouldn't need to use gasoline on a typical day.

**Partial Support**  
 Calculate using half of full support assumption.

**Do not count PHEVs in charging demand estimates.**

---

**Percent of drivers with access to home charging**  %

Here is the result if only 78% of Floridians have access to home charging, accounting for the 22% living in multifamily housing in 2015 who may not:

## Your Results

In Florida, to support 64,535 plug-in electric vehicles you would need:

**5,195** Workplace Level 2 Charging Plugs

**4,154** Public Level 2 Charging Plugs  
*There are currently 3,463 plugs with an average of 2.6 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).*

**570** Public DC Fast Charging Plugs  
*There are currently 761 plugs with an average of 3.9 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).*

### Where Do I Start?

Planners may want to prioritize installation of fast charging infrastructure above Level 2 charging.

**Build DC Fast First:** Establishing fast charging networks that enable long-distance travel, serve as charging safety nets, and provide charging for drivers without home charging is critical to support all-electric vehicles that have no other alternative for quickly extending their driving range.

**Build Level 2 Second:** EVI-Pro typically simulates the majority of Level 2 charging demand coming from plug-in hybrid electric vehicles, which have the ability to use gasoline as necessary for quickly extending driving range.

### Change Assumptions

Plug-in Electric Vehicles (as of 2016): 20,200  
 Light Duty Vehicles (as of 2016): 16,175,500  
**Number of vehicles to support**

---

**Vehicle Mix**

Plug-in Hybrids 20-mile electric range	<input type="text" value="15"/> %
Plug-in Hybrids 50-mile electric range	<input type="text" value="35"/> %
All-Electric Vehicles 100-mile electric range	<input type="text" value="15"/> %
All-Electric Vehicles 250-mile electric range	<input type="text" value="35"/> %
<b>Total</b>	<b>100%</b>

---

How much support do you want to provide for plug-in hybrid electric vehicles (PHEVs)?

**Full Support**  
 Most PHEV drivers wouldn't need to use gasoline on a typical day.

**Partial Support**  
 Calculate using half of full support assumption.

**Do not count PHEVs in charging demand estimates.**

---

**Percent of drivers with access to home charging**  %

Reducing the number of residents with access to home charging from 100% to 78% requires more than doubling public charging investments to meet charging demand.

*SACE urges the Commission to ensure that any EV charger demand projections incorporated into SB 7018 planning documents include Florida's current and forecasted housing makeup and identify areas with multifamily dwelling density. Doing so will help ensure the master plan accounts for an adequate number and strategic and equitable public charging infrastructure placement.*

**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.**

Based on a soon-to-be-released SACE and Atlas Public Policy collaborative brief examining Florida's EV market, Florida lags in EV ownership, infrastructure deployment, and utility investment:

- Florida is the third-largest state in the country by population and accounts for seven percent of the national population according to data from the 2019 Census.
- Yet, Florida claims between four and five percent of the total share of national EV sales and EV charging deployment.
- On a per-person basis, Florida ranks 18<sup>th</sup> in terms of EV deployment per capita.
- The approximate \$8 million in approved Florida utility EV infrastructure investments to date represents one-half-of-1% of approved utility investments nationwide.

These statistics demonstrate the need to enhance the supply of charging stations to support scaling the EV market. Additionally, the Regulatory Assistance Project's presentation to the PSC on September, 15 laid out the

benefits transportation electrification will provide consumers, the environment, and grid management:<sup>3</sup>

1. EVs provide a 78% reduction in end-use energy consumption. That efficiency, combined with the lower cost of electricity relative to petroleum, saves consumers money. According to the U.S. Department of Energy's e-Gallon calculator, the cost of fueling an EV with electricity in Florida is equivalent to fueling a car with \$1.07 per gallon gasoline.<sup>4</sup>
2. According to the Energy Information Administration, Florida is the fourth-largest energy-consuming state, and it uses almost eight times as much energy as it produces. The excess consumption is mainly in the form of petroleum; Florida has the third-highest motor gasoline demand in the country.<sup>5</sup> Meanwhile, Florida continues its rapid scale-up of both utility-scale as well as distributed solar. SACE projects Florida will have the most installed solar capacity in the Southeast by 2021.<sup>6</sup> Given that the transportation sector is now the leading contributor to climate change and Florida has among the highest vehicle miles traveled on its roads, shifting from carbon-intense gas and diesel vehicles to light, medium, and heavy-duty EVs powered by an increasingly renewable utility resource mix is critical.
3. Regarding potential grid benefits, in their presentation, the Regulatory Assistance Project quoted the PSC of Maryland.
  - a. "EV load must be managed effectively, otherwise all ratepayers will share in the expensive costs of upgrading and maintaining the distribution system to accommodate increased load on the system."<sup>7</sup>
  - b. "Pairing EV adoption and EV charging with intelligent rate design can improve electric distribution system utilization and create downward pressure on rates through load management and system peak reduction."<sup>8</sup>

Given the need for charging station deployment growth and the potential

---

<sup>3</sup> <http://www.floridapsc.com/Files/PDF/Agendas/InternalAffairs/lapdfs/IA-09-15-20.pdf>

<sup>4</sup> <https://www.energy.gov/maps/egallon>

<sup>5</sup> <https://www.eia.gov/state/?sid=FL>

<sup>6</sup> <https://cleanenergy.org/wp-content/uploads/Solar-in-the-Southeast-Report-2020.pdf>

<sup>7</sup> Public Service Commission of Maryland. (2019, January 14). Order No. 88997, In The Matter Of The Petition Of The Electric Vehicle Work Group For Implementation Of A Statewide Electric Vehicle Portfolio, CASE NO. 9478, p. 49.

<sup>8</sup> Public Service Commission of Maryland. (2019, January 14). Order No. 88997, In The Matter Of The Petition Of The Electric Vehicle Work Group For Implementation Of A Statewide Electric Vehicle Portfolio, CASE NO. 9478, p. 43-44.

benefits scaling the EV market will deliver, the Florida master plan process is timely. The PSC is well-positioned and empowered through SB 7018 to guide utilities on what transportation electrification engagement should encompass. A productive next step in that process would be convening dialogs among stakeholders to identify collaborative opportunities and seek overarching consensus on the roles utilities should play to accelerate the transition to light, medium, and heavy-duty EVs.

For example, there is the immediate need to convene appropriate state agencies, local governments, utilities, advocates, and industry stakeholders to determine how best to electrify the state's school and transit bus fleets and deploy the related charging infrastructure.

Electric school bus and transit bus represent emerging technologies in the EV market. Florida should include in the master plan the development of a school and transit bus electrification plan, which would consist of addressing bus charging infrastructure needs. Addressing electric school and transit bus charging needs in parallel with light-duty corridor charging needs will identify bus chargers' opportunities to help meet public charging needs, especially during evacuation. Additionally, buses have battery storage capacities that utilities can utilize to deliver grid benefits, including during storm events when power is lost.

In August 2019, Dominion Energy announced a plan to electrify all school buses in its Virginia service territory by the end of 2025. As a part of this deployment, Dominion will be exploring bi-directional power flow (V2G) applications where the buses act as energy storage resources for the grid.<sup>9</sup> FP&L is engaging in a similar but smaller five-electric bus pilot project with the West Palm Beach Parks and Recreation Department.<sup>10</sup> In both programs, the utility owns the bus batteries and provides charging infrastructure, which reduces the cost for school districts to electrify and provides for grid benefit optimization.

As the Union of Concerned Scientists points out in their guide to utility investment in bus and truck charging, "utilities can kick-start charging investments and advance the use of electric trucks and buses through several strategies, including the design of electricity rates, direct investments in charging infrastructure, and rebate incentives that encourage the hosts of

---

<sup>9</sup> <https://www.dominionenergy.com/our-stories/electric-school-buses>

<sup>10</sup> <http://newsroom.fpl.com/news-releases?item=126109>

charging sites to install infrastructure.”<sup>11</sup>

*SACE urges the Commission to consider utility engagement in the emerging medium and heavy-duty EV market while addressing regulatory structures to support engagement in the light-duty passenger vehicle market. Doing so makes regulatory and planning sense, and will likely unlock additional market, ratepayer, and grid benefits.*

**B. Provide examples of strategies adopted or being considered in other states that could be implemented in Florida.**

Three effective strategies that Florida could adopt as part of the master planning process are 1) form technical working groups to advise PSC, FDOT, and Office of Energy on program design and implementation; 2) require utilities to file transportation electrification plans; 3) provide transportation electrification funding for local governments. Virginia and Colorado serve as examples:

1. Virginia has implemented a ‘working group’ model that convenes experts and stakeholders to answer discrete questions emerging from statewide planning processes such as the feasibility of a state EV rebate program.<sup>12</sup>
2. Colorado’s lawmakers required utilities to file transportation electrification plans, and SB 077 will allow electric utilities to own charging stations and earn a return on the investment.<sup>13</sup>
3. The Colorado Energy Office’s Charge Up program provides funding for local governments to install chargers and is mandated to allocate funds to rural towns, so no community is left behind.<sup>14</sup>

**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**

---

<sup>11</sup>

<https://www.ucsusa.org/sites/default/files/attach/2019/04/Electric-Utility-Investment-Truck-Bus-Charging.pdf>

<sup>12</sup> <https://www.virginiaev.org/?p=809>

<sup>13</sup> <https://leg.colorado.gov/bills/sb19-077>

<sup>14</sup> <https://energyoffice.colorado.gov/zero-emission-vehicles/charge-ahead-colorado>

## **of electricity to EV charging station infrastructure.**

The light, medium, and heavy-duty EV markets are young, policy-driven markets that will significantly impact the electric utility sector. Utilities should engage in pilot projects to research and development programs that will support market growth within the regulatory structure. Scaling the EV market will create a significant new load that will help place downward pressure on rates for all ratepayers, displace internal combustion tailpipe emissions that contribute to air pollution and carbon emissions, and enables lower transportation total cost ownership for consumers and fleets.

Utilities should be encouraged to undertake robust pilot EV infrastructure projects to understand and determine charging infrastructure costs, benefits, and market impacts. These projects should also advance the utilities' and the Commission's understanding of how EV charging, when adequately managed, can smooth out a utility's load and place downward pressure on rates for all customers. Beyond pilot programs, the Commission should consider establishing a regulatory process to recover prudent investment in EV infrastructure through formal docketed proceedings.

*SACE urges the Commission to ensure regulatory structures support charging infrastructure access for all Floridians, regardless of demographic or geographic differences. Equitable access to the benefits of transportation electrification includes equitable access to adequate charging infrastructure.*

*SACE further urges the Commission to encourage utilities to have customer education and outreach programs incorporated into electric transportation filings to ensure all customers understand EV adoption's economic, public health, and environmental benefits.*

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

Investor-Owned Utility engagement is critical to transportation electrification success. Utilities are well-positioned to provide leadership, capital, and services to the market within the regulated structure. Though utilities should not have unfettered access to rate-based capital to directly compete against the private market that, by nature of having to recoup capital costs and pay market rate for electricity have a higher hurdle, nor should utilities be sidelined. It is vital to balance competitive fairness with the EV market's immediate need for utilities' capabilities, capacity, and capital.



Identifying competitive neutral policies is challenging. When utilities invest in the EV market, many industry stakeholders benefit: the companies that win contracts can grow their businesses; auto dealerships can sell more EVs; those EVs create new business opportunities for private-sector charging station providers and installers; increased EV charging leads to downward pressure on rates.

Simultaneously, some EV charging companies' business models may be negatively impacted by specific utility engagement. The challenge is to balance those impacts with positive industry stakeholder impacts and overall transportation electrification benefits EV market success will bring for all customers, including lower transportation costs, cleaner air, greater energy security, and reduced climate risk.

*SACE urges the Commission to consider the guiding principles laid out by the Edison Electric Institute, Illinois Citizens Utility Board, National Consumer Law Center, NRDC, and Sierra Club in the Joint Statement Supporting Electric Transportation:*<sup>15</sup>

- *Transportation electrification should benefit all utility customers, including those in communities that are burdened disproportionately by local air pollution from the transportation sector and low-income households that spend a disproportionate share of their income on vehicle fuel and maintenance.*
- *Transportation electrification should avoid placing financial burdens related to electric vehicles' transition on those who can least afford it.*
- *Costs associated with utility investments designed to support transportation electrification should generally be recovered over a timeframe that corresponds to the expected realization of future economic benefits from the electrification of the transportation sector's electrification.*
- *Electric utilities should track metrics within their control that measure the benefits of transportation electrification, such as the following:*
  - *Success in monitoring, prioritizing, maintaining or improving the affordability of electric service for low-income households and in enhancing household energy security;*

---

15

[https://www.eei.org/resourcesandmedia/newsroom/Pages/Press%20Releases/2.11\\_Joint%20Statement\\_TransportationElectrification.pdf](https://www.eei.org/resourcesandmedia/newsroom/Pages/Press%20Releases/2.11_Joint%20Statement_TransportationElectrification.pdf)

- *Success in increasing access to the use of electricity as a transportation fuel in low-income and disadvantaged communities;*
- *Success in improving the utilization of the grid to put downward pressure on electricity rates and translating these improvements into benefits for all customers;*
- *Success in using the integration of variable renewable, zero-emission generating resources in meeting the growing needs of transportation; and*
- *Utility investments that support transportation electrification should be designed to:*
  - *Lower household expenditures by increasing access to the use of clean and affordable electricity as a transportation fuel, including in low-income and disadvantaged communities;*
  - *Improve local air quality in communities burdened by pollution from the transportation sector, including by supporting the electrification of buses, medium and heavy-duty trucks, and other vehicles and equipment;*
  - *Improve the utilization of the electric grid, putting downward pressure on rates to the benefit of all customers, including low-income customers and customers in disadvantaged communities; and*
  - *Take advantage of the flexibility and energy storage inherent in electric vehicles to facilitate the integration of variable renewable, zero-emission generating resources.*

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

Utility engagement is necessary to scale charging station deployment. SACE believes that utilities' access to capital should be leveraged as a near-term stimulus to advance the nascent market.

There are various charging station deployment models that include:

- Site host owned and operated
- Third-party owned and operated

- Site host owned but third-party operated
- Utility owned and operated

Utilities can play a role in each model. The Regulatory Assistance Project describes roles utilities can play.<sup>16</sup> Optimal solutions will likely result from utilities engaging in all four of these roles under various circumstances over time. The regulatory planning process must build in adaptability to respect the nascent-nature of the EV market and accommodate utilities playing these roles when and where doing so is beneficial to the market and consumers:

1. Utility as a facilitator: The utility treats EV 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 an enabler: The utility deploys additional infrastructure up to the point of connection to the charging infrastructure to build capacity in critical areas to enable project development — also called the make-ready option— but does not take a direct role in installing, owning, or operating the charging infrastructure.
3. Utility as a manager: In addition to delivering electric service to the vehicle charger’s location, the utility manages the charging operation to better accommodate grid capabilities and grid needs.
4. Utility as a provider: The utility delivers electric service to the charging equipment, which the utility owns and can earn a return on, and the utility provides charging services.

In the short-term, EV drivers who use the charging stations that result from rate-based utility investments will receive benefits that non-participants have helped pay for. In the long-run, however, utility investment will lead to a more robust EV market. Scaling EV deployment will create a significant new electricity load. Implementing effective rate design to manage the increased load optimally will result in downward pressure on rates, as indicated by Synapse Energy Economics’ analysis in California that found “from 2012 through 2018, in the two utility service territories with the most EVs in the United States, EVs have increased utility revenues more than they have increased utility costs, leading to downward pressure on electric rates for EV-owners and non-EV owners alike.”<sup>17</sup>

In addition to the roles utilities should play, there are immediate charging infrastructure

---

<sup>16</sup> <https://www.raonline.org/knowledge-center/roadmap-electric-transportation-policy-guide/>

<sup>17</sup> <https://www.synapse-energy.com/sites/default/files/EV-Impacts-June-2019-18-122.pdf>

deployment gaps, research and development needs, and rate design challenges that utilities are well-suited to address:

1. Locations underserved by current and proposed public or private sector-funded charging station deployment:
  - a. Rural and traditionally disadvantaged communities
  - b. Evacuation route and corridor charging gaps
  - c. Secondary corridors not prioritized in the Florida Roadmap
  - d. Destinations otherwise unserved but deemed necessary from an economic development perspective.
2. Research and development opportunities requiring utility capabilities, capacity, and capital:
  - a. Make-ready investments for multifamily dwellings, and public corridor fast charging
  - b. Managed charging to develop V2G integration and DER optimization, especially for transit and school buses and freight and delivery vehicles
  - c. Partnerships with rideshare companies requiring fast charge depots to scale rideshare fleet electrification
  - d. Development of locations ideal for battery storage and solar generation integration to support grid resilience and evacuation needs
3. Testing rate-design and investment strategies that could help close charging station gaps and unlock market growth:
  - a. Pay-as-you-save programs for funding the capital expenditure delta between diesel and electric transit and school buses
  - b. DCFC demand charge limiters to support private sector deployment at scale
  - c. Light, medium, and heavy-duty time of use rates to encourage off-peak charger utilization and other grid management priorities

*SACE believes it is not prudent to limit utility engagement to these specific challenges and needs. Simultaneously, SACE urges the Commission to encourage and support electric transportation filings that seek to address these urgent charging infrastructure deployment gaps, research and development needs, and rate design challenges.*

**D. Provide examples of regulatory structures adopted or 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 following are representative examples of broad-ranging commission actions across the country that showcase steps the Florida PSC can take to support infrastructure deployment and EV market growth:

- **Arizona:** Commission requested utilities to file pilot programs, rate design proposals, cost recovery alternatives, and education and outreach programs, as well as charging programs. See <https://docket.images.azcc.gov/0000199128.pdf>.
- **Maryland:** Commission approved education and outreach, a sub-metering pilot, and utility investment in customer-funded public charging stations. See <https://www.psc.state.md.us/wp-content/uploads/Order-No.-88997-Case-No.-9478-EV-Portfolio-Order.pdf>.
- **Minnesota:** Commission established a series of stakeholder workshops to develop practical utility electric transportation filing guidelines. See <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7BD035FA6D-0000-C329-8CC4-8C86EA6E24C8%7D&documentTitle=201910-156850-05>.
- **New York:** Commission issued an order that establishes the "EV Make-Ready" initiative, which will provide up to \$701 million in incentives for utilities to invest in new electric vehicle charging stations through 2025. The costs will be passed on to utility customers over about 15 years, the PSC said, with a "minimal bill impact on the average residential bill." The program has a heavy emphasis on environmental justice. About \$206 million — 29% of the total — is earmarked for efforts to install chargers in low-income communities. See <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=56005>.

Sincerely,

Stan Cross

Southern Alliance for Clean Energy  
Electric Transportation Policy Director