

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF FLORIDA**

Undocketed Request for Comment)
For EV Workshop/SB 7018)

Docket No. 20200000-OT
Issued September 2, 2020

**COMMENTS AND RESPONSES TO QUESTIONS
OF DRIVE ELECTRIC FLORIDA**

Drive Electric Florida is pleased to submit the following comments in this Proceeding of the Florida Public Service Commission (PSC or Commission) in its Undocketed Request for Comment for EV Workshop/SB 7018, which was issued by the PSC on September 2, 2020. We have here provided some general comments about the future of transportation electrification, the role of regulatory entities have to play in this emerging industry, as well as provide the Commission with examples of approaches other states have applied within their own jurisdictions while identifying areas of consensus amongst industry stakeholders. It bears mention that many of Drive Electric Florida's members will be filing their own comments in this matter. While there are clear areas of divergence in opinion about the best strategies and pathways forward, DEFL seeks to provide insights into areas of consensus amongst industry stakeholders on best practices and regulatory strategies to develop transportation electrification as a viable mass market alternative to traditional, internal combustion transportation options.

About Drive Electric Florida

Drive Electric Florida is a mission-driven organization composed of a diverse set of stakeholders who work collaboratively in support of programs and policies that would accelerate the adoption of electric vehicles in Florida. Drive Electric Florida was organized in 2014 as a 501(c)(3) non-profit corporation whose membership includes utility companies, local governments, environmental advocacy organizations, electric vehicle (EV) charging infrastructure companies, and EV enthusiast groups.

Our Mission:

Support and accelerate the adoption of electric vehicles in Florida by engaging and educating the public, businesses, and policy-makers; facilitating collaboration; and supporting EV-friendly policy and programs.

Our Vision:

Advance the energy, economic, and environmental security of the state of Florida by promoting the growth of electric vehicle ownership and accompanying infrastructure.

In order to accomplish our mission and vision, and thereby advance the energy, economic and environmental security of all Floridians, Drive Electric Florida seeks to empower our members by engaging the public, state and local government elected officials, regulators, businesses, and policymakers on the benefits, challenges and implications of a reimagined transportation sector in matters such as the one before the Commission. By their own admission, Drive Electric Florida Board members such as The Sierra Club and Southern Alliance for Clean Energy (SACE) frequently take very different approaches to the regulated utility market than their colleagues on the board such as Florida Power and Light or Duke Energy Florida. However, when considering fully the benefits of electric transportation, those parties recognize the value of participating in constructive stakeholder discussions about the best means to encourage a policy and regulatory framework that promotes electric vehicle adoption and removes barriers to adoption. A full consideration of the benefits of electric transportation is revealing as to why that may be the case.

The Benefits of Transportation Electrification

First and foremost, the beneficiaries of electric transportation are the general body of ratepayers – that is, the public. They are the reason this discussion, at this time, before this Commission, is being held: not for the EV driver who owns their own home with a charging station in the garage, or for the utility who will provide electricity to power their home and fuel their cars. Giving public utilities the regulatory certainty they need to spread additional kWh sales over the same fixed capital cost system in a way that treats the increased load of EVs flexibly will put downward pressure on rates.¹ Put simply, this fact justifies rate payer investments.

However, beyond the role of the Commission in this discussion, there are many other benefits for electric transportation for owners of EVs and general public, first and foremost of which are environmental benefits. The transportation sector is the leading cause of greenhouse gas (GHG) emissions in Florida and adopting electric transportation options at any scale has a direct impact on reducing emissions. Even at today's relatively low level of market penetration, Florida's stock of electric vehicles have been responsible for reducing consumption of gasoline by nearly 60 million barrels, and reducing tailpipe emissions of carbon dioxide by 100,000 metric tons in 2019 alone and nearly 300,000 metric tons cumulatively.²

¹ "Electric Vehicles are Driving Rates Down," Frost, Whited, and Allison. Synapse Energy Economics, Inc. https://www.synapse-energy.com/sites/default/files/EV_Impacts_June_2020_18-122.pdf.

² "Summary Statistics for Light-Duty Plug-in Electric Vehicles In Florida, 2011-2019," David Gohlke, Argonne National Laboratory, Energy Systems Division, Systems Assessment Group; August 6, 2020.

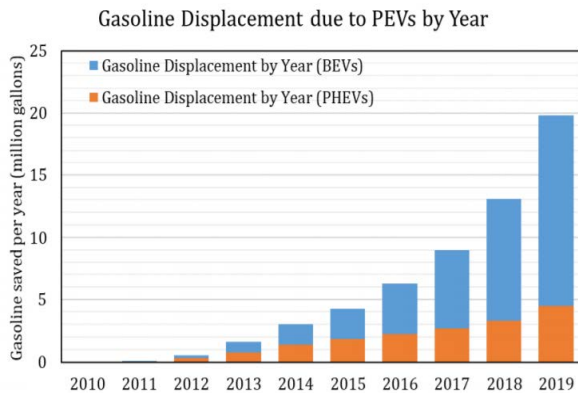


FIGURE 4 Gasoline displacement from ICE vehicles by LDV PEVs by year

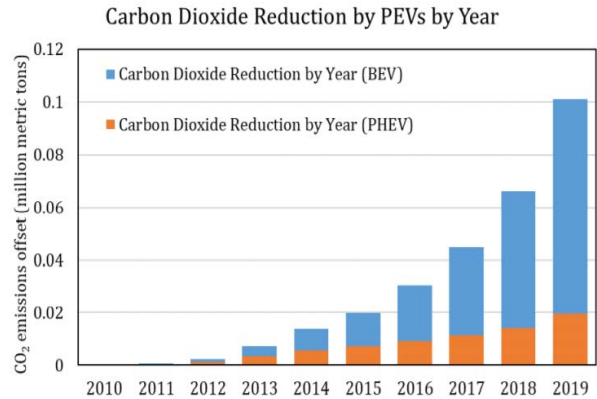


FIGURE 5 Carbon dioxide reduction from LDV PEVs by year

Source: Argonne National Laboratory, Summary Statistics for Light-Duty Plug-in Electric Vehicles In Florida, 2011-2019

For individuals and organizations who believe in the consensus of the scientific community, supported by overwhelming evidence, that humans are contributing to a warming world, and that climate change is an existential threat to the future of our species, this is a powerful motivator to support EV adoption at scale, as soon as possible. As the energy generation portfolio of Florida’s utilities increasingly include renewable resources year on year, so too does an electric vehicle get cleaner and greener over the total useful life of the electric vehicle.

In addition to the environmental benefits, EVs emit no particulate matter when they operate, thereby improving air quality and reducing the presence of known carcinogens in the built environment. Historically, these carcinogenic emissions have disproportionately impacted low income Floridians and communities of color. As many residents who live in areas with poor air quality utilize public dollars when they seek treatment for chronic health conditions, there is a powerful argument to be made that improving the quality of life and health outcomes is an issue that transcends transportation and directly impacts areas of non-transportation areas of government and healthcare provider budgets. A core priority for regulators should be to ensure that filings have designed programs and developed strategies that distribute the benefits of a reimagined transportation sector to all Floridians, whether in dense urban communities or rural areas. In such ways, the PSC can play an important role to ensure public utilities are contributing to cleaner air, better access to affordable services, more connected communities and the creation of a more equitable state for all who visit or call this place home regardless of where they live or their socioeconomic status.³

³ An excellent overview of the role electric utilities can play in this area is a joint statement issued by the Edison Electric Institute, The Sierra Club, The Natural Resources Defense Council, and National Consumer Law Center. https://www.eei.org/resourcesandmedia/newsroom/Pages/Press%20Releases/2.11_Joint%20Statement_TransportationElectrification.pdf; “[Energy Infrastructure: Sources of Inequalities and Policy Solutions for Improving Community Health and Wellbeing](#),” Seidman, Napoleon, and Maddux, with support provided by the Robert Wood Johnson Foundation, April 2020.

Beyond the human considerations, there is a powerful economic dimension to EV adoption as well. The total cost of ownership for electric vehicles is better than its ICE equivalent, due to the avoided costs of maintenance and fuel. For businesses and government, that means that dollars that would have gone toward procuring fuel or maintaining their fleets – or healthcare outlays due to chronic conditions such as asthma, as described above - can go to other facets of their operating budget, and allow them to deliver the same service at a reduced cost.

All of the fossil fuels consumed in Florida are refined and imported from elsewhere, meaning billions of dollars that would otherwise circulate in Florida’s economy – that is, spent at its small businesses, restaurants and stores – end up somewhere else. Unlike petroleum products, which are subject to volatile commodity prices based on geopolitical or economic factors out of the average Floridian’s control, the energy used to charge electric vehicles are produced domestically with a relatively stable, lower price than the alternative. By avoiding fuel and maintenance costs, greater market penetration of electric vehicles could increase the purchasing power of Floridians by billions of dollars annually.

It also bears repeating that the total body of ratepayers benefit from electric vehicle ownership through reduced rates. When paired with the economic benefits, reduced pollution and broad societal benefits, and national security considerations, the reasons to investigate and facilitate the deployment of EVs and their accompanying infrastructure is self-evident.⁴

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.

In external stakeholder meetings regarding SB7018 EV Masterplan development, the Florida Department of Transportation has provided a set of projections in their stakeholder meetings. Drive Electric Florida believes they are aligned with different projections from numerous credible sources: Florida has tripled the number of electric vehicles registered here over the previous three years, and projections anticipate this trend to continue and accelerate for the foreseeable future.

That being said, any market exercise in emerging industries and technologies over a 20 year period can be difficult. For instance, a similar exercise conducted on October 2, 2000 to bring us to the

⁴ “A Primer on the Benefits of Electric Vehicles.” Alliance for Transportation Electrification. June 2018.

present day would very likely not have included electric vehicles as a part of their forecasts or baseline assumptions. The iPod had not even been released.

However, two paradigm changing developments in business and technology will likely ensure that the forecasts for EV adoption are relatively accurate: the move to decarbonize business operations and logistics, and the development and implementation of an ecosystem of interconnected smart devices, the so-called “internet of things,” which will include the machines that move us. Paired with advances in cloud computing and artificial intelligence, it is likely that by the end of the 20 year planning horizon we will see the first glimmer of an autonomous and connected transportation environment. It is entirely possible that advances in wireless and inductive charging or breakthroughs in energy storage will obviate the need for the mass deployment of charging infrastructure as the Commission is currently discussing it.

Which brings us back to the present. Where we are now, and what needs to be done over the next one to five years to prepare for the rapid growth in EV sales anticipated by every credible analysis. Considerations of the current electric transportation landscape include:

1. The rapidly declining cost of batteries.
2. National, regional and local charging corridors are beginning to take shape thanks to impressive and sustained investments governments, charging companies, electric utilities, and forward-thinking market participants. While adequate to serve the market at current levels, those investments will need to increase in order to match EV adoption rates or risk curtailing deployments.
3. Introduction of dozens of new models by automakers in coming years⁵
4. New Market Segments are achieving price parity.
5. Fleet Electrification: light duty, medium and heavy duty, is increasingly a part of business and government planning.

These interconnected developments will require a new set of market-based solutions to meet their needs, and present formidable regulatory challenges over the long term planning horizon contemplated by the Commission’s questions. Certain strategies to leverage these facts in the short terms in order to achieve the exponential projected share of the electric vehicle market is addressed below.

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.

⁵ “Electric Vehicle Market Status: Manufacturer Commitments to Future Electric Mobility in the U.S. and Worldwide,” MJB & A; May 2019. “How Mobility Players Can Compete As The Automotive Revolution Accelerates,” McKinsey Center for Future Mobility; October 2017. “Public Utilities and Transportation Electrification,” Alexandra Klass, *Iowa Law Review*. Retrieved from: <https://ilr.law.uiowa.edu/assets/Uploads/ILR-104-2-Klass.pdf>

- 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.

The Commission has an important role to play in establishing a collaborative, statewide vision for EV charging and increasing EV adoption. It is an approach that has been undertaken in other jurisdictions, and that has been useful to guide the development of a strategic approach to developing an adequate supply of electric vehicle supply equipment (EVSE). To develop an adequate supply of charging stations, it will be necessary to use a range of policy instruments.⁶ Access to charging is an essential consideration for a driver or fleet operator when deciding whether to purchase electric vehicles for their personal or business use. As the needs and decision-making process vary from customer to customer, and the end use cases for electric vehicles continue to diversify, no single solution will work for everyone.

Accordingly, Drive Electric Florida believes a multi-pronged approach that leverages a range of business models to deploy, own and operate electric vehicle charging infrastructure is the most credible and assured means to foster the anticipated growth of the electric vehicle market and the enjoyment of its public benefits. Private charging companies such as ChargePoint, Tesla, EVgo, NovaCharge, and many, many others have made an impressive and sustained effort to meet current market demand.⁷

Indeed, when combined with other elements of the transportation policy ecosystem, these investments are greater than the sum of their parts: increasing access to charging infrastructure will also encourage more of Florida’s residents to purchase electric vehicles, resulting in higher utilization and revenues for all providers operating in this market. Given the scope of Florida’s geography, as well as the size and diversity of its population, no single market participant could reasonably hope to invest in an “adequate, reliable supply” of charging stations themselves.⁸ Distilled to its essence, as the number of participants and companies making investments in electric vehicle charging infrastructure increases, so does the relative value of their individual assets. For this reason, Drive Electric Florida is generally supportive of well-considered investments to deploy electric vehicle charging infrastructure.

Such an approach would amplify the effectiveness of individual policy actions by developing a statewide vision and plan of action in collaboration with federal, state and local agencies and other key partners, planning ahead and leveraging funding sources in concert with each other. That

⁶ [AchiEVe: Model Policies to Accelerate Electric Vehicle Adoption](#), prepared by DEFL member The Sierra Club. Released August 2020. [ABCs of EV](#), prepared by the Citizens Utility Board of Illinois

⁷ “Investments in EV Charging in the United States: An Overview of Current and Historical Funding From the Public and Private Sector,” by Connor Smith. Atlas Public Policy and the Alliance for Transportation Electrification. February 2020.

⁸ Laws of Florida, Ch. 2020-21. <http://laws.flrules.org/2020/21>

approach would also need to consider various ownership models, market segments, end use cases and the barriers to adoption that are unique to each. Below is a brief description of some of these:

Infrastructure Ownership models: deployed across a range of different market segments and for different purposes.⁹

1. 3rd Party Ownership: owned, operated and maintained by a third party, typically a charging company.
2. Private Ownership: owned, operated and maintained by the site host who has deployed it.
3. Utility: owned, operated and maintained by an electric utility and deployed with the approval of the site host.
4. Public Ownership: owned, operated and maintained by a public agency or government.

Different market segments include residential, commercial, multiunit dwelling (MUD), and fleets. The end use cases for each of these ownership models and market segments may include light duty or passenger vehicles, commercial deployments as a value added amenity, workplace charging, or fleet deployments that, currently, encompass light duty and mid-sized vehicles for logistics and distribution. Barriers to adoption for each segment have been well documented, and include range anxiety and a perceived lack of publicly available charging infrastructure, incremental upfront costs, the need for consumer education and engagement, dealership education and the lack of availability for certain EV models, as well as ensuring equitable access in certain contexts, such as income qualified or MUDs, in addition to the challenging economics to deploy and own EVSE in certain commercial settings,.

Government Entities

Federal Government

It should be noted the federal landscape is, as of today, “uncertain.” Pending the outcome of the election in barely a month’s time, the opportunity to partner with federal entities and sources of funding may change significantly, or be seriously curtailed.

State Government

At the state level, Florida’s policymakers can use a combination of regulatory actions, legislation, and executive action to develop the supply in the market. Setting bold but achievable goals – the bolder and more aspirational, the better – send strong market signals that Florida is serious about capturing the full range of benefits offered by transportation electrification. Indeed, some states have already made commitments to zero emissions vehicles (ZEV) that will require action by Florida’s policymakers to compete with, lest future vehicle models, including medium and heavy-duty trucks, transit buses, and the EVSE necessary to deploy them be absorbed by those markets at the chronic expense of Florida’s policy objectives and tax payers, who will continue to pay for

⁹ “Business Models for Financially Sustainable EV Charging Networks” Nick Nigro and Matt Frades, Center for Climate and Energy Solutions. March 2015.

more expensive, polluting, carbon-fueled fleets that absorb resources that could have been committed to other facets of the state budget.

It is important that circumstances unique to Florida be considered in the regulatory context. Given the 100 million plus visitors Florida can expect in normal times, it will not be sufficient to plan only for the number of registered EVs in the state when forecasting load. The same routes that facilitate tourism also serve as critical evacuation corridors when Florida is faced with an impending natural disaster. For this reason, state resources from existing or new sources of revenue should be paired with investment from a range of market participants to deploy an essential network of charging infrastructure to support Florida's Strategic Intermodal System, Alternative Fuel Corridors, and designated evacuation routes.

Some actions that are not directly within the purview of the Commission, but will directly impact the ability to deploy EVSE and therefore impact projections for energy and grid planning, are updating Florida's building codes and procurement practices. The costs to incorporate EV-ready components during construction are orders of magnitude less expensive than they are to do once the project has been completed. In many cases, trenching and repaving a parking lot to install EVSE will not be cost effective, that is, prohibitively expensive.

The state's fleet of motor vehicles includes approximately 25,000 units, according to the Department of Management Service's website.¹⁰ This represents a substantial investment by Florida's state agencies but is also an opportunity to reduce spending and operating costs. Statutes governing procurement also impact state universities, community colleges, and local governments that purchase vehicles under a state purchasing plan, nearly always for less money than if procuring vehicles through another process.¹¹ Taken together, the sheer number of vehicles eligible for electrification as they reach the end of their useful life would require a substantial number of EVSE at state facilities and publicly available deployments to support their travel.

However, the state contract is not updated frequently enough to include new charging infrastructure technologies or vehicle models as they become available. State government agencies are statutorily required to consider fuel efficiency, but not total cost of ownership, when making procurement decisions, precluding EVs from being considered.¹² This is not neutral or competitive from a market standpoint, and benefits gasoline powered vehicles at the expense of other, more affordable options. State procurement practices also generally do not allow for vehicle leases, which would be a powerful tool to stimulate a robust secondary EV market and make EVs more affordable options for consumers.

¹⁰https://www.dms.myflorida.com/business_operations/fleet_management_and_federal_property_assistance/fleet_management

¹¹ Section 286.29, F.S.

¹² Outdated language in Section 286.29(5), F.S., requires state agencies to select ethanol and biodiesel blended fuels.

Local Governments

Local governments also have a crucial role to play in transportation electrification, and some have already set bold carbon neutral or renewable energy goals for themselves.¹³ Local governments, by and large, are more nimble in their policy adoption process than the state government, and make many critical decisions regarding transportation.¹⁴ In order to meet those goals, local governments will need to commit to fleet electrification (using a procurement process that currently handicaps that effort), and deploy EVSE in their communities to support their own fleet, as well as residents and visitors.

Local governments can also administer workplace charging and destination charging programs at sites such as parks, historic downtowns, retail or dining areas, and other venues. In the absence of state leadership, local governments can also undertake local policy initiatives to develop an adequate supply of EVSE, such as modifying their local building codes,¹⁵ modify their land use and zoning requirements, work to create a streamlined process for permitting, which varies widely amongst jurisdictions currently,¹⁶ create rebate programs, offer ad valorem tax credits, and for certain jurisdictions with a local option fuel surtax, make investments in EVSE with that revenue.

Local governments also have a role to play in deploying electric public transportation options in their community. Operating vehicles with lower costs of ownership, fuel and maintenance within a transit fleet may give the transit agency more flexibility to increase routes or offer additional services, such as those for transportation disadvantaged residents.¹⁷

Regional Approaches

One additional avenue for building partnerships merits brief mention within the context of this question is the [Southeast Florida Regional Climate Compact](#). Composed of Monroe, Miami-Dade, Broward and Palm Beach Counties, the regional effort to combat climate change recently released a report detailing the opportunities and challenges discussed in this question and containing Florida-specific policy approaches to collaborative purchasing and regional infrastructure planning.¹⁸ It will be important to leverage investments, including by regulated utilities, to turn this document into reality and supplement local government and private sector funding.

¹³ An interactive map of those can be found at <https://www.sierraclub.org/ready-for-100/map?show=actions>.

¹⁴ “Equity in Practice, Developing a City Transportation Electrification Roadmap.” Forth. May 2020. “[EV for All: Electrifying Transportation in Low Income Communities](#),” Illinois Citizens Utility Board, July 2020.

¹⁵ Section 553.73(4)(a), F.S.

¹⁶ “[Summary of Best Practices in Electric Vehicle Ordinances](#),” by Claire Cook and Brian Ross. Great Plains Institute; June 2019.

¹⁷ [Integrated Approaches to EV Charging Infrastructure and Transit System Planning](#). National Center for Transit Research, Final Report. July 2016.

¹⁸ “Regional Climate Impact Implementation Guidance Series: Electric Vehicles and Charging Infrastructure” SE Florida Climate Compact, June 2020. <https://southeastfloridaclimatecompact.org/wp-content/uploads/2020/06/EV-Guidance-06-12-2020.pdf>

Regional approaches need not be a local government-driven undertaking. In North Carolina, MPOs and Clean Cities Coalitions began a planning and deployment exercise as a prelude to the ZEV Mandate planning done in that state.¹⁹

Business Approaches

Businesses have several main roles in driving transportation electrification efforts. They can deploy EVSE as a “value added” amenity for their employees to allow for workplace charging or to drive profit margins within their retail operations.²⁰ Businesses can also electrify their fleets to deliver the same services at reduced cost, and improve their bottom line, as discussed above. Businesses, generally, are also the creative wellspring of innovation, as start ups create new products to cater to an emerging market needs.²¹

Turning from the general to the specific, there is a need to engage and educate auto dealerships and property assessed clean energy providers, and where necessary offer incentives for selling EVs or installing EVSE, respectively. Earlier today, Drive Electric Florida member Orlando Utilities Commission announced a first of its kind electrified dealership program.²² Transportation Network Companies, such as Lyft and Uber, have made commitments to electrify their fleets. Uber, for instance, just pledged \$800 million by 2025 to help switch drivers to EVs. But there are open questions about how and where these electric vehicles will charge, and who will pay for that infrastructure, which again highlights the importance of investments from all market participants, including public utility investment where appropriate, to help them achieve their worthy and ambitious goals.

It should also be noted that automakers have also, historically, committed to deploy infrastructure. The most obvious example is Tesla, but others including Rivian, Ford, Nissan and General Motors have previously or intend to deploy EVSE as well.

Utility and Charging Provider Considerations

The role of public utilities is discussed at length below, but it should be mentioned that municipal electric utilities and electric cooperatives have a good deal of flexibility to innovate to meet the needs of their customers. Regulated market actors should also be given flexibility to pilot different programs within the framework of transportation electrification to supplement other market actions and investments.

¹⁹ North Carolina Zero Emissions Vehicle Plan, <https://www.ncdot.gov/initiatives-policies/environmental/climate-change/Documents/nc-zev-plan.pdf>;

²⁰ An example: Florida Power and Light has administered a workplace charging program.

²¹ Drive Electric Florida Member ZappyRide has created a suite of useful tools for businesses and consumers, including a fleet infrastructure cost [calculator](#) (use zip code 94108); for home charger information and [rebates](#); [total cost of fuel](#) comparisons, route planning tools, and [used vehicle tools](#)

²² Orlando Utilities Commission Press Release, October 2, 2020. <https://www.ouc.com/about-ouc/news/2020/10/02/ouc-and-city-of-orlando-launch-first-of-its-kind-electrified-dealer-program>.

Fleets are a high-growth, near-term electrification segment. Utilities and charging companies have a unique market position as a partner to empower fleet managers and businesses, transit agencies, school districts, governments, and other key accounts in the following ways:

1. Help select the correct technology to charge
 - a. Such as smart charging software that enables customers to manage charging cost-effectively and helps the utility manage load system-wide.
 - b. Amplify the benefit of rate design.
2. Understanding Charging Loads and Power Delivery
3. Site Planning and Engineering
4. Distribution Grid Upgrades
5. Which Rate Is Best Suited to this site?
 - a. Discussed further below. Rate design is a crucial consideration.
6. Education about utility rebates and incentives.

If proper planning and stakeholder outreach is not done, especially with the utility, on the front end, fleet electrification becomes a far more costly, timely endeavor than it need be.²³

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

[REVConnect](#): A partnership from New York State that brings together companies and electric utilities in a novel way to accelerate innovation, develop new business models and deliver value to New Yorkers. This cuts across many of the disciplines included in this question.

Local and State Examples

[Smart Columbus](#) Smart Columbus is the Smart City initiative for the Columbus, OH areas, which began with a \$50 million US Department of Transportation Grant they have used to leverage additional investments. Participation by the private sector will allow them to turn the grants into “seed funding” for Columbus' future initiatives,

²³ Black and Veatch, How Utilities Advance Electric Transportation and the Grid; Electric Fleets. Ceres and Amazon, The Road to Fleet Electrification: Eight Ways Utilities, Regulators and Policymakers Can Enable Fleet Operators to Electrify Commercial Transportation and Reduce Carbon Emissions. Black and Veatch, 8 Steps to Medium and Heavy-Duty Fleet Electrification. World Business Council for Sustainable Development: Guide for Corporate Electric Vehicle Fleet Adoption.

[Sacramento, California](#): Sacramento Municipal Utility District, or SMUD, and the Sacramento Air District, SMAD, worked closely with the city to develop their EV Readiness and Infrastructure Plan and a range of incentives and rebates. This is a great example of how certain electric utilities can innovate at the local level in a way that is not always but sometimes applicable to regulated market actors in an innovative regulatory paradigm. An incomplete list of programs offered in that location include:

Sacramento Municipal Utility District	Residential Customers: a \$599 rebate or a free Level 2 PEV charger	SMUD Incentive Program
Sacramento Municipal Utility District	Vehicles: \$750 - \$15,000 depending on vehicle Hardwired wall or pedestal mounted Level 2 EV charger port: \$1,500 Projects in Sacramento County: Up to \$80,000 per DC fast charger or 80% of total project cost, whichever is less; Up to \$5,500 per level-2 connector, additional \$1,000 per connector if installed in a multi-unit dwelling	SMUD Commercial Incentive Program
Sacramento Municipal Utility District	\$750 - \$15,000 per vehicle, depending on vehicle	SMUD Commercial Fleet Pilot

[Connecticut](#), examines many of the topics in this question, including: public and private fleets; medium and heavy-duty charging; expanding EV charging infrastructure; leveraging incentives to promote equitable, affordable EV ownership; minimizing grid impacts through demand reduction measures, and demand charges. Released April 2020.

[Drive Electric Tennessee](#): In January 2019, a broad group of stakeholders, including the Department of Environment and Conservation and the Department of Transportation, released an EV roadmap for Tennessee. The plan includes individual roadmaps for different electric vehicle areas, including charging infrastructure availability; awareness; innovative and supportive policies; and EV availability, offerings, and innovation.

[North Carolina](#): ZEV Plan, enacted through a combination of Executive Order and Rule Promulgation.

Interstate and Regional Examples

The West Coast Electric Highway: an extensive network of electric vehicle (EV) DC fast charging stations located every 25 to 50 miles along Interstate 5, Hwy 99, and other major roadways in British Columbia, Washington, Oregon, and California. The initiative is a collection of projects,

funding sources, and partners with the same vision—to provide a network of fast charging stations enabling electric vehicle drivers to make longer trips and travel between cities. Given the sheer number of highway mileage in Florida, is a “Sunshine Electric Highway” out of the question?

[West Coast Clean Transit Corridor Initiative](#): A collaboration among nine electric utilities and two agencies representing more than two dozen municipal utilities with the aim to electrify 1,300 miles from the Mexican to Canadian border for freight haulers and delivery trucks.

Utility and Public Utility Commission Approaches

Drive Electric Florida encourages the Commission to enable and encourage innovative and flexible EV programs which both address unique deployment barriers within different customer segments and support different ownership models for both the infrastructure and charging stations. Some examples for the Commission to consider include:

[Hawaii](#): A June 2017 Public Utilities Commission order required the HECO companies to develop an Electrification of Transportation Strategic Roadmap. HECO's roadmap describes a number of activities that could accelerate the adoption of EVs, including: (1) lowering costs and educating customers, (2) accelerating the buildout of EV charging infrastructure, (3) supporting the electrification of buses and other heavy equipment, (4) incentivizing EV charging, and (5) coordinate with ongoing grid modernization planning efforts.

[Colorado](#): In October 2017, the Colorado Public Utilities Commission (PUC) opened an investigation into transportation electrification. In May 2018, the PUC issued a decision ordering PUC Staff to convene a working group on EVs and transport electrification, with instructions to submit a [written report](#), submitted in January 2019. Recommendations from the final report included keeping this docket open to discuss general policy issues while allowing and encouraging utilities to file applications for pilot programs and tariffs, and allowing utilities to file applications for make-ready infrastructure investments.

The Commission noted that a growing EV market, coupled with shifting EV charging loads to off-peak times, offered the potential to flatten load curves and improve system utilization, leading to potential benefits for all ratepayers. By contrast, it noted that unmanaged load from EV charging held the potential to increase peak demand, alter peak load shapes, increase demands on the grid, and ultimately increase costs for all ratepayers on the electric system due to demand charges or to cost recovery associated with new capital project construction.

A report titled "[Electric Vehicle Charging Implications for Utility Ratemaking in Colorado](#)" prepared by the National Renewable Energy Laboratory was filed in March 2019. This report discusses the potential to decrease cost of service by encouraging charging in periods of low system cost, and how the use of Time Of Use rates might affect charging behavior.

Maryland: A similar stakeholder-driven process was convened by the Maryland Public Service Commission to evaluate a Petition for Implementation of a Statewide Electric Vehicle Portfolio.²⁴ In addition to this, Maryland also has a statutorily-created Maryland Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) whose responsibilities include developing recommendations for a Maryland charging infrastructure plan, developing targeted policies to support fleet purchases of electric vehicles, develop charging solutions for existing and future multi-unit dwellings, and pursuing other goals and objectives that promote utilization of ZEVs in their state. The convening from the Commission was to examine, among other things, retail choice for EV tariffs in all utility territories, consider additional rate structures for customers with EVs, including time of use rates, planning for utility investment in charging infrastructure, particularly in difficult areas to attract private capital for EVSE deployment, developing strategies with other state agencies and in consultation with utilities to address grid-related costs associated with fleet electrification, and to consider unique tariffs for corporate fleets, workplace and commercial charging.

Baltimore Gas and Electric received approval from the Maryland Public Service Commission for a portfolio EV program which addresses multiple customer segments such as single-family residential, multi-family dwellings, and public charging with a combination of customer rebates and utility ownership of charging stations, as well as a load-management aspect that utilizes smart meters.²⁵

Minnesota: A 2019 notice by the Minnesota PUC opened an inquiry to gather information and a better understanding of 1) the possible impacts of EV on the electric system, 2) the degree to which public utility and utility regulatory policy can impact the extent and pace of EV penetration in Minnesota, and 3) possible tariff options to facilitate wider deployment. Key findings were that Important components of EV Proposals should include 1) designing efficient and effective rates, 2) Educating rate payers about EV options and benefits, 3) investing in EVSE, 4) Cost Recovery of EV-related investments, such as makeready, 5) Promoting connections through interoperability.

The PUC then mandated the three investor-owned utilities in Minnesota submit filings in the following manner:

Filing	Due Date
Report of 2019 Proposals	March 31, 2019
Annual EV Reports, including promotional cost recovery mechanisms	June 1, 2019
Transportation Electrification Plan	June 30, 2019
2019 Proposals for infrastructure, education, managed charging, etc.	No later than October 31, 2019

²⁴ Public Service Commission of Maryland, Case No. 9478, Order No. 88997 on January 14, 2019. Retrieved from https://webapp.psc.state.md.us/newIntranet/Casenum/NewIndex3_VOpenFile.cfm?FilePath=//Coldfusion/Casenum/9400-9499/9478/109.pdf

²⁵ <https://www.bge.com/SmartEnergy/InnovationTechnology/Pages/ElectricVehicles.aspx>

The subsequent filings are illustrative of the range of programs public utilities can offer to the public, and the extent of the Commission’s regulatory authority.

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.

As there is a great diversity of opinion amongst Drive Electric Florida’s members, I would encourage the Commission and staff to review their remarks on this topic. However, it should be noted that there are several common elements around which the industry believes there is consensus.

Florida law currently states that the sale of electricity through an EV charging station does not constitute the utility sale of electricity, and accordingly should not be regulated by the Commission. Charging station owners should be allowed to charge for electricity on a per kWh basis, by duration of charging, or other rate as they see fit.

Public utilities should be encouraged to propose EV programs that include a range of investment approaches and target a range of customer segments and use cases, such as allowing for cost recovery for all prudent costs associated with EV-related utility investments in makeready. Another regulatory mechanism at the public utility’s disposal are pilot programs. The most effective pilot programs consider:

1. Customer Education and Outreach
2. EV-Specific rates
3. Investments in, or ownership of, electric vehicle charging infrastructure
4. Rebates and Incentives for customers.

Actions undertaken at the Minnesota PUC and subsequent utility filings in that state are a good example.

Florida’s public utilities, of their own volition or at the Commission’s direction, should integrate load projections and any EV-related investments into their 10 Year Site Plans, or develop separate transportation electrification plans outside of their integrated resource planning effort. Florida’s public utilities should also, where appropriate, explore other opportunities before the Commission that make the most use of EVs as a resource to the grid.²⁶ Particularly promising is managed charging, which allows a utility, grid operator, or a third-party the ability to remotely control vehicle charging by increasing or decreasing electric demand in concert with the needs of the grid,

²⁶ “Charging Ahead: Deriving Value from Electric Vehicles for All Electricity Customers,” Illinois Citizens Utility Board.

similar to traditional demand response programs.²⁷ It may be prudent, even desirable, to include such technologies as a standard asset in a utility’s demand response portfolio.²⁸

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

The variety of approaches and business models oriented toward deploying, owning, and operating infrastructure, and the spirited, sometimes litigious debates amongst market participants, is a sure sign of entrepreneurial innovation and good health. The ultimate success of this effort will require the time, talent, and expertise of each of them to accomplish the expansion of electric vehicle use in this state.

Utilities have taken several different approaches to this growth as facilitators and partners to customers, as managers of charging programs, and as providers of infrastructure, including in some cases charging stations.²⁹ A competitively neutral approach should neither prohibit utility investment and ownership of charging stations, nor private party investment and ownership of charging stations. Excluding either one or the other would be anticompetitive. Instead, allowing for a mix of programs, actors, investment approaches and ownership models with appropriate regulatory guiderails will help support the diversity of buyers and sellers of products and services that collectively comprise the EV charging marketplace.

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

Public utilities have a number of beneficial ways to participate in the EV charging marketplace. Some of these include:³⁰

1. Providing site host and charging providers with information to determine appropriate grid connection locations and working with site hosts to address any necessary grid upgrades.
2. Education, Marketing and Promotion utilizing utilities’ regular communications channels with customers and benefiting from widespread recognition and established customer relationships.

²⁷ “A Comprehensive Guide to Managed Charging,” by Erika Myers, Principal, Transportation Electrification, Smart Electric Power Alliance. May 2019. Also a Drive Electric Florida member.

²⁸ Florida public utilities are currently evaluating several technologies as a part of their Demand Response Portfolio, including: utility control of residential electric vehicle chargers; electric vehicle-to-grid applications; residential smart breaker panels; residential battery applications, and a Distributed Energy Resources Management System including photovoltaic generation, battery storage and electric vehicle charging capabilities.

²⁹ Fitzgerald, G., & Nelder, C. (2017). From Gas to Grid: Building Charging Infrastructure to Power Electric Vehicle Demand. Rocky Mountain Institute (RMI). Retrieved from: https://www.rmi.org/insights/reports/from_gas_to_grid

³⁰ “Utility Best Practices for EV Infrastructure Deployment,” by Erika Myers and Smart Electric Power Alliance, Electric Vehicle Working Group Distribution Planning Subcommittee. June 2020.

3. Offering tariffs such as time of use rates to encourage drivers to charge when electricity is less expensive.
4. Managing charging through software and technology.
5. Offering financial incentives to reduce price barriers to EV adoption and the purchase and installation of EV charging stations.
6. Supporting a better customer experience by implementing open standards and interoperability for utility EV charging programs.
7. Offering a range of customer incentives and investment approaches that support a variety of ownership models and support the competitive EV charging market in a competitively neutral manner.

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.

Drive Electric Florida has offered examples in previous sections that explore various approaches consistent with this question. No doubt many of its members have provided their feedback on the topic as well.

However, no discussion about transportation electrification should proceed without considering some of the approaches from the market with the most robust EV policy ecosystem: California. Their intention to eliminate the sale of ICE vehicles by 2035 is the strongest possible market signal to date for automakers, EVSE providers, components manufacturers, and candidly, regulators, that the era of siloed transportation and electric sectors are over. Two foundational industries of the 20th century will face many overlapping questions of policy convergence in the 21st.

Their state's recommend approaches and strategies for developing the market further can be found in its [Transportation Electrification Framework](#), and its [Vehicle to Grid Roadmap](#).

California's investment ecosystem:

- i. Grants, such as: [Clean Transportation Program](#) awards up to \$100 million annually to fund development of conveniently-located fueling and charging infrastructure, and the adoption of alternative fuel vehicles, including low and no emission medium and heavy-duty vehicles
2. Incentives, such as: [California Electric Vehicle Infrastructure Project \(CALeVIP\)](#):
3. Loan Programs, such as: [California Capital Access Program \(CalCAP\)](#)
4. Rebate Programs, which take into account income: [Clean Vehicle Rebate Project \(CVRP\)](#)

5. Sales Tax Exemptions and Use Tax exclusions for manufacturing and zero-emission transit buses, such as: [Sales and Use Tax Exclusion Program](#) and [A.B. 784](#)
6. Voucher Programs to reduce the incremental upfront costs of purchasing electric models for bus and truck fleets, such as: [Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project](#)
7. California Air Resources Board Incentives: [Drive Clean](#), [Clean Vehicle Rebates](#)

This partial list does not include local initiatives or utility programs.

Summary

Drive Electric Florida would like to thank the Commission for providing us and our members with this opportunity to weigh in on extremely important questions and attempt, as best we are able, to collectively be responsible stewards of this opportunity. Asking these questions, investigating the implications of electric transportation for rate payers and market participants alike, is the right approach. Florida has not been a comprehensive or early adopter of electric vehicle technologies to date. Though we are fourth in the nation by sales, that is as much a function of the size and relative wealth of our population as it is of a comprehensive and coordinated effort to develop the market for future mobility options. There are a variety of different approaches that we can experiment with, learn from, and finally settle on as the best one for the unique set of regulatory, environmental and political circumstances here in Florida. We have a long road ahead of us, if you'll indulge a terrible pun. Not all of Florida's public utilities have even had charging infrastructure pilots approved to this point: an often useful first step to develop core competencies in a new and nascent marketplace. Indeed, the Public Service Commission may not have need of seemingly exotic features and products such as a V2G Roadmap or working group at this point. But it will. And soon.

Respectfully Submitted, this 2nd day of October, 2020,

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