

**Brian Schultz**

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**From:** Brian Schultz on behalf of Records Clerk  
**Sent:** Monday, October 05, 2020 8:40 AM  
**To:** 'lfchanin@gmail.com'  
**Cc:** Consumer Contact  
**Subject:** FW: Florida Tesla Enthusiasts Response to Staff Request for Comment 2020 Undocketed File, Docket No. 20200000-OT  
**Attachments:** Registered EVs in Florida.pdf; Registered EVs in Florida Projection.pdf

Good Morning, Lawrence Chanin

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

Sincerely,

*Brian Schultz*

Commission Deputy Clerk II  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399  
850.413.6770

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**From:** Lawrence Chanin <lfchanin@gmail.com>  
**Sent:** Saturday, October 03, 2020 1:36 PM  
**To:** Records Clerk <CLERK@PSC.STATE.FL.US>  
**Subject:** Florida Tesla Enthusiasts Response to Staff Request for Comment 2020 Undocketed File, Docket No. 20200000-OT

Florida Tesla Enthusiasts, also known as Tesla Owners Florida, submits the following comments in response to Staff Request for Comment 2020 Undocketed File, Docket No. 20200000-OT.

**Introduction:**

**Florida Tesla Enthusiasts:** Who we are, what we do.

We are a Florida not-for-profit club with over 800 members that primarily focuses on Tesla products. The club aims to meet, exchange information, educate, and advocate for various electric vehicle and sustainability-related causes.

Although we are officially recognized by Tesla, we are an independent enthusiast organization. We are not affiliated (in a formal business sense) with Tesla or its subsidiaries. Whereas our views may likely align with Tesla's, any opinions expressed here are solely our own. We do not represent Tesla's position on these matters, nor do they represent our position.

Our resources are limited, and we are not equipped to pursue an in-depth analysis of all aspects of the PSC Staff request. However, we would like to present some information from our Tesla and consumer-oriented perspective, which we believe will be helpful.

## **Electric Vehicle Growth in Florida**

With assistance from FPL, we have been tracking EV adoption in Florida.

We have attached two graphs. The first, Registered EVs in Florida, shows the actual number of Plug-In EVs registered by the Florida Department of Transportation. It shows exponential growth from Year-End 2013 to the second quarter of 2020. The exponential curve fit (red dotted line) is highly correlated with the data.

The second graph, Projected Registered EVs in Florida, uses the same exponential curve to project the number of registered Plug-In EVs until Year-End 2025. It shows that we can expect over 450,000 Plug-In EVs by Year-End 2025, assuming no significant EV market saturation to slow the growth curve.

We know that the Staff has requested projections out 10 and 20 years. Such a long planning horizon might not yield immediately actionable information. For example, if this growth rate were to continue ten years, there would be about 2 million registered Plug-In EVs by 2029. By 2033, with no abatement in growth, in 14 years, there would be 8 million Plug-in EVs or about the total number of registered light-duty vehicles in Florida.

We recommend that planners focus on the near future. Specifically, they need to develop a strategy for about half of a million Plug-In EVs on the roads by 2025 and take action **NOW** to address this virtually certain projection.

## **Tesla Supercharger Network: A fast-charging network adequately serving consumers**

As of the second quarter of 2020, there were 34,851 registered Teslas in Florida out of a total of 63,750 Plug-in EVs or 55%. Sales of Teslas are the driving force in EV adoption in Florida. Tesla is aggressively expanding its DC fast-charging network of Tesla Supercharger Stations to stay apace with that growth.

The original version 1 fast-charging terminals installed in 2012 delivered up to 120 kW. They were upgraded to version 2 terminals, which deliver up to 150 kW. As the station sees higher utilization, the capacity can be shared between two Teslas. A more compact Urban fast charger was introduced that delivers up to 75 kW to a single Tesla. Currently, Tesla is installing version 3 terminals. They deliver up to 250 kW. As the station sees higher utilization, this capacity can be shared between four Teslas. Teslas vehicles (Model 3 and Y) with the most advanced battery chemistry can charge at up to 1,000 miles of range per hour on these terminals.

Supercharger Stations in Florida are being added to the network every month. Despite the rapid growth of the Tesla fleet in Florida, in general, it is rare to experience Supercharger Station congestion where Teslas are lined up waiting to charge. When congestion does occur, it is usually at an older, smaller Supercharger Station located in a high-traffic location. Nowadays, Tesla installs the high-capacity version 3 terminals in larger stations. The minimum sized new Superstation Station is comprised of at least eight charging stalls with two 250 kW Supercharger cabinets powering them. Some of Tesla's latest installations are twice that size, 16 charging stalls with four 250 kW Supercharger cabinets.

Currently, there are 52 active Tesla Supercharger Stations in Florida comprised of 504 charging terminals. The total capacity of these stations is 80,214 kW or an average of 159 kW per terminal. With about 35,000 Teslas on the road, that equates to 2.3 kW per Tesla or about 69 Teslas per charging terminal.

Although I doubt that Tesla is consciously building 2+ kW of fast-charging infrastructure per Tesla vehicle, this ratio today is working to serve the Tesla driving public satisfactorily. If, in aggregate, EVs on the road in 2025 are similar to Teslas today, then this 2.3 kW measure of charging adequacy would equate to a

total of about 1 MW of fast-charging capacity. This assumes our earlier projection of roughly 500,000 EVs by 2025. A fleet of 500,000 EVs with similar characteristics to Teslas would require about 7,200 charging terminals with a capacity averaging 159 kW to match Tesla's current excellent level of service.

## **Regulated Electric Utility Considerations**

It is appropriate for regulated electric utilities to promote the adoption of electric vehicles. The adoption of electric vehicles (EVs) as an alternative to fossil fuel vehicles improves the health of Floridians and the economy. In addition to being cleaner, EVs are more efficient and cost less to operate. Those savings to the driving public are reinvested in the Florida economy rather than being lost as pollution and waste heat. The continued decreasing cost of batteries makes it inevitable that we will witness an accelerating shift from Internal Combustion Engines to Electric Vehicles. Utilities need to be prepared for this foreseeable increase in load.

With proper rate design, even ratepayers who don't own EVs can benefit through lower rates. With increasing EV adoption, EV owners would be paying an increasing portion of rate-base costs. Lower overall rates can be accomplished by encouraging both EV adoption while instituting pricing signals that offer incentives for charging electric vehicles off-peak.

Studies show that 80 to 90% of EV charging occurs at home. However, EV adoption will be inhibited if during those times while driving away from home, EV owners encounter the following problems:

- Lack of availability of conveniently located Fast-Charging Stations
- Congestion at Fast-Charging Stations
- Prohibitively expensive Fast-Charging

One of the challenges of offering Fast-Charging is that these are commercial installations which incur significant demand charges in addition to energy charges. When designing the rate structure for Fast-Charging Stations, regulated utilities should take an approach that aggressively limits demand charges. Consideration should be given to the fact that cost recovery of EV-related costs is being accomplished during the 80 – 90 % of the time that EVs are charging at home. In other words, the PSC should look at the total picture of EV adoption even if cost recovery isn't being wholly accomplished at Fast-Charging Stations.

Even if the price charged at Fast-Charging Stations is deemed reasonable by the driving public, EV adoption will still be inhibited if there is congestion at stations. Media photos of long lines at charging stations will kill EV sales. Therefore, demand limiter trigger points must be set relatively high to allow station operators enough savings on utility costs to invest in new stations. A station that achieves too high a utilization rate will lose customers and incur negative customer reactions if the net result is a long wait.

Electric utilities can also promote EV adoption by offering make-ready incentives that defray the costs Fast-Charging Station operators have to pay for utility line extensions. This approach is a competitively neutral policy that doesn't discriminate based on the charging terminals connector design.

Sincerely,

**Lawrence Chanin**

**President, Florida Tesla Enthusiasts**

**Cell:** 941-504-0887

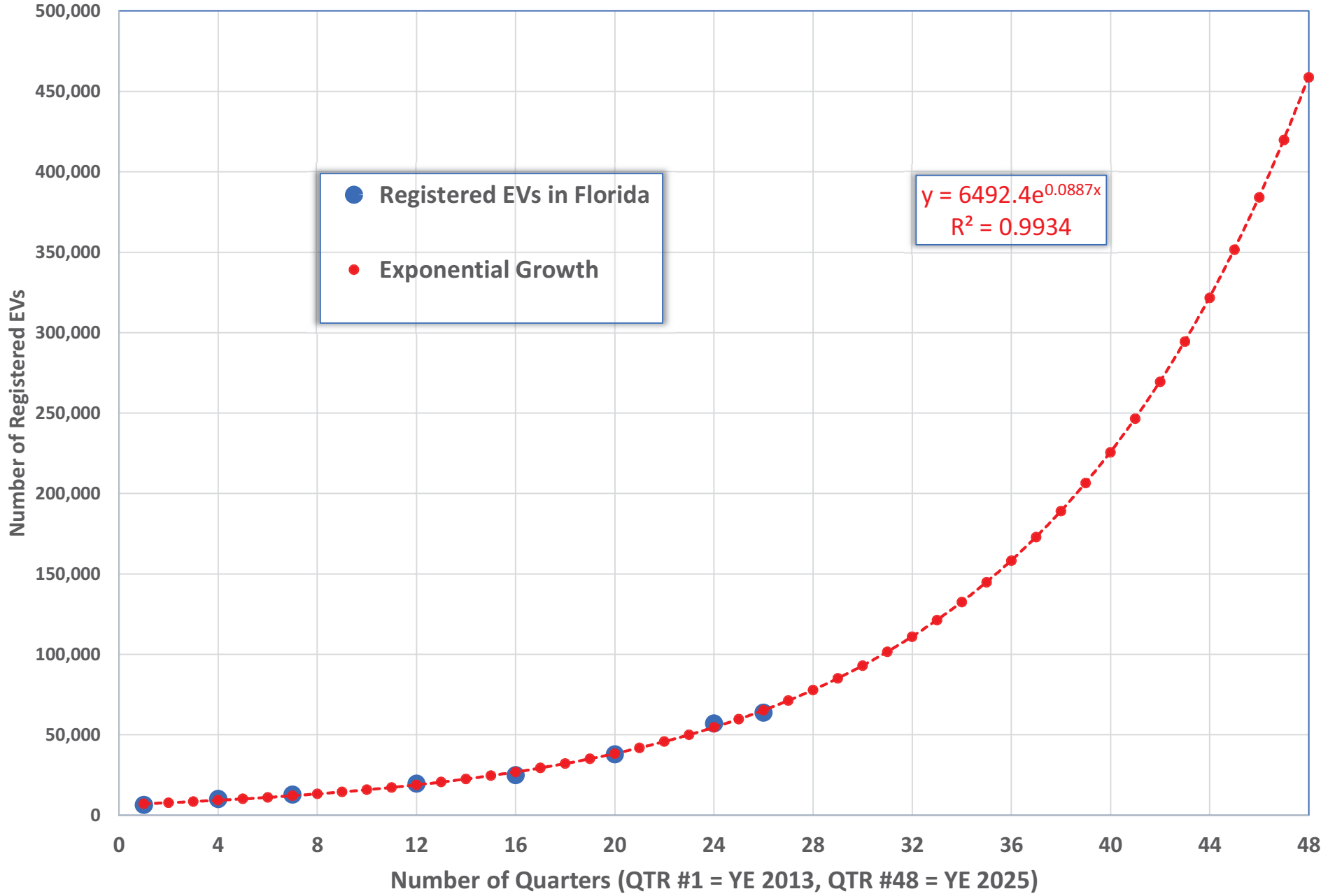
**Email:** [lfchanin@gmail.com](mailto:lfchanin@gmail.com)

**Website:** [teslaownersflorida.org](http://teslaownersflorida.org)

**Facebook:** [Florida Tesla Enthusiasts](https://www.facebook.com/FloridaTeslaEnthusiasts)



# Projected Registered EVs in Florida



# Registered EVs in Florida

