

CT Electric Vehicle Registrations Grow 36%

Post by Barry Kresch

17,217 electric vehicles are now registered in Connecticut

This is a topline description of the new dataset. A more in-depth profile will be available when the EV dashboard is updated in a few weeks. The usual disclaimer: This is registrations (not sales). It is cumulative and net and includes new and used vehicles, as well as someone who already owns an EV who moved into the state. On the other hand, vehicles turn over all the time, and these exit the dataset.

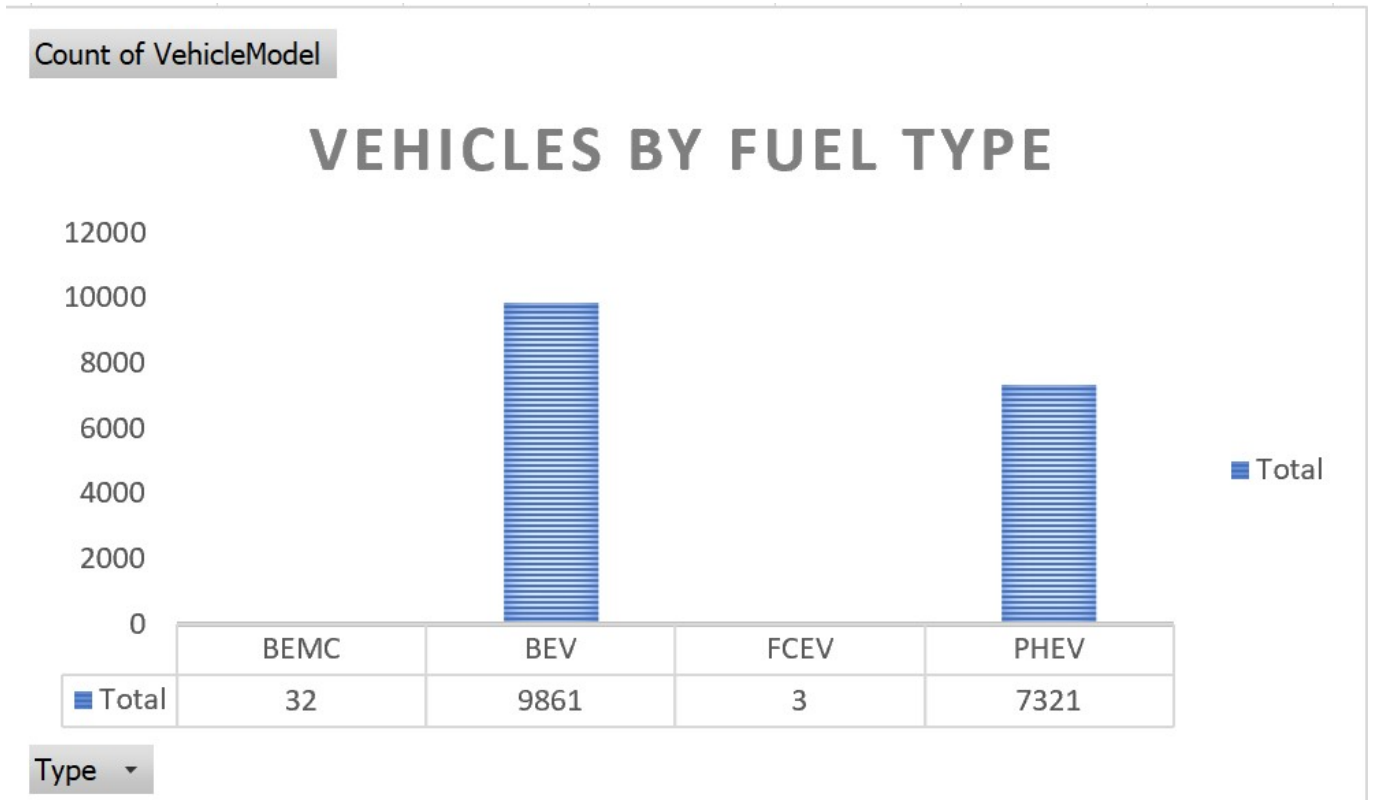
The new count of EVs as of July 1 has been released by the Department of Motor Vehicles. The new count of 17,217 represents a 36% increase from the 12,624 one year ago. This is an improvement from the 18% 12-month growth rate we saw in January, but it still falls short of the level of growth needed to achieve the 2030 goal of 500,000 electric vehicles set forth in the MultiState Zero Emission Vehicle Action Plan Memorandum of Understanding. There is obviously still a pandemic influence over the growth rate as the economy didn't begin to recover until the last few months. The growth rate for the past 6 months is 25%. If we were to double that, then we would be roughly on pace with what we need. I will calculate a new required compound annual growth rate and include it in a subsequent post.

One hopeful sign is that the 4335 EVs registered in the first half of 2021 was about the same as the total for all of 2020, which was 4408. (These may not be completely apples to apples as COVID affected how registrations were handled. I think it

still gives a reasonable general picture.)

Fuel Type

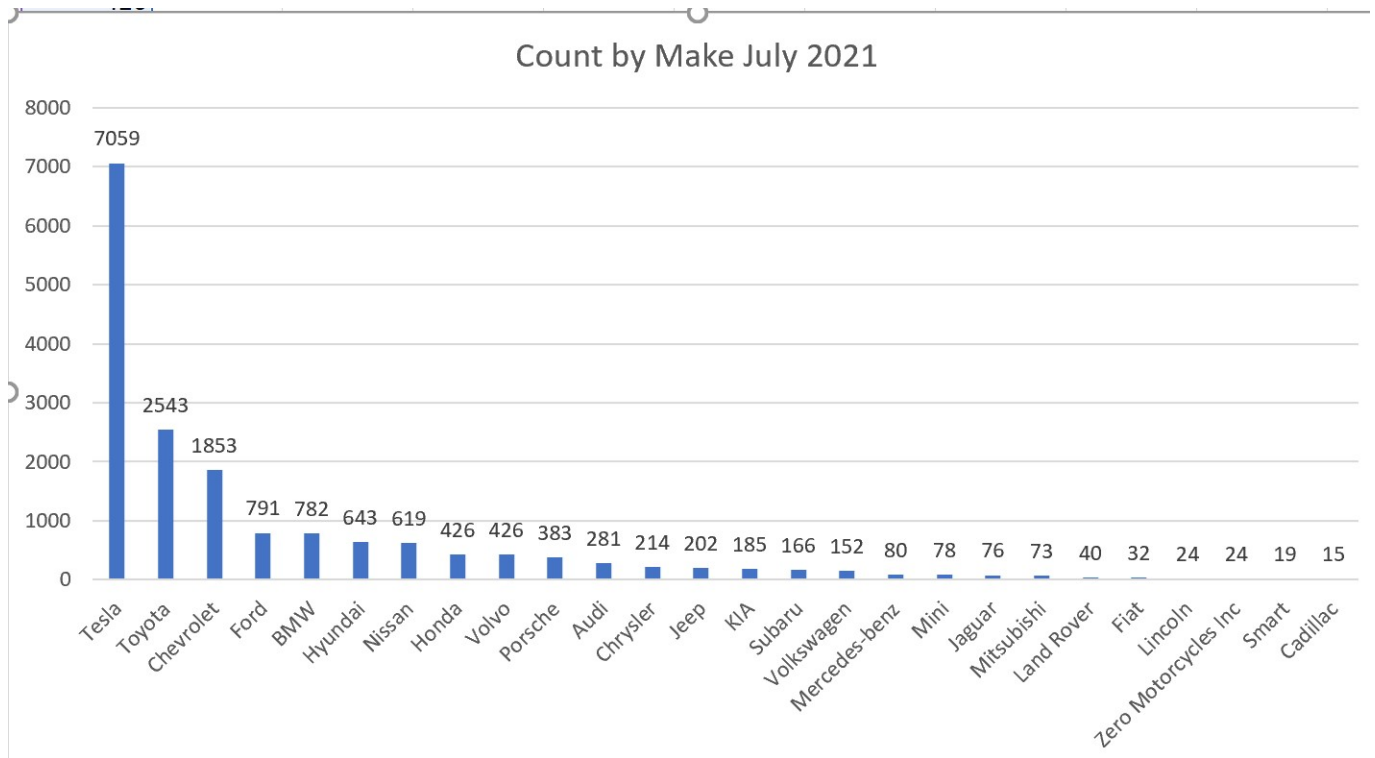
The definition of EV in the file includes battery electric vehicles (BEV), Plug-in Hybrid Vehicles (PHEV), Fuel Cell (FCEV), and electric motorcycles (BEMC). Below are the numbers for each.



BEVs account for 57% of all EVs. The FCEV count remains where it has been as these are not sold in the state at this time. BEMCs went from 25 to 32.

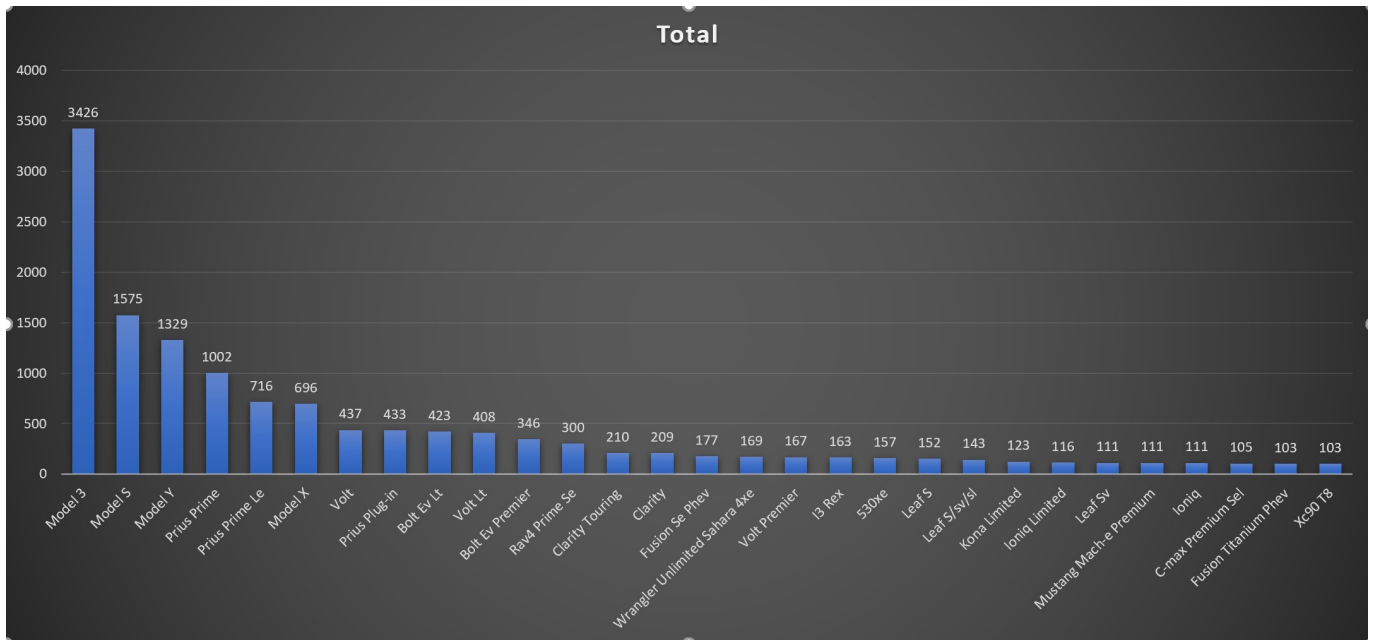
Top EV Makes

Tesla continues to lead all EV Marques by a mile.



This pattern is consistent with what we have been seeing. There are a small number of makes that account for almost all registered, followed by a long tail. This chart includes any make in double digits, not a very high bar, but there are quite a few below that level. When the dashboard is updated, it will have the full list. The only real change is that Toyota had a nice increase of 33% from January. Toyota saw increased registrations for its Prius Prime models as well as a good start for the RAV4 Prime. Tesla had a 20% increase, obviously off a larger base. Chevrolet reversed its net decline and increased 9%. The net declines were caused by the discontinued Volts gradually declining. This implies an improvement for Bolt sales.

The top make is the Tesla Model 3, which increased 16% since January. The top models are below.



The Model Y has now surpassed the Model X. It increased 101% since January. You will note that some models have multiple names due to different names for different trim levels. This is how the file comes. I will consolidate it for the dashboard as I think that is an easier comparison to make for our purposes. There are 3 Prius variations and they total 2151, making it the second most widely registered EV.

Some New Brands

These is an arbitrary list and counts of some of the newer EVs on the market. In some cases, there are still limited production runs, so it will not be indicative of how successful the vehicle will be.

Audi Q5 Plug-in – 64

BMW X5 Plug-in – 252. This has quickly become the most widely registered BMW EV.

Ford Mustang Mach-E – 136

Jeep Wrangler Plug-in – 202

Polestar 2 – 8

Proterra Electric Buses – 4

VW ID.4 – 57

Volvo Xc40 Recharge – 31

CHEAPR Rebates Continue at Slow Pace – May Update

CHEAPR Rebates Continue to Crawl – Revised Guidelines Needed

UPDATE: CHEAPR Board Meeting Scheduled for July 17th.

CHEAPR recently published updated stats through May 30. The recent trend continues. May rebates totaled 25. The breakdown is 14 BEV, 11 PHEV, and 0 Fuel Cell.

With the publication of the May dataset, CHEAPR restated its data for April. For those who saw the blog post regarding the April data, the 13 rebates have been revised to 17. It is not unusual that minor adjustments are made a little after the fact.

CHEAPR has been pacing severely under budget as defined by total rebate dollars awarded relative to a straight line pacing of the \$3MM annual budget (i.e. \$250K monthly). Any month where rebates are under \$250K will cause this underage to widen. The amount rebated in May was \$26,500 and the expended funds are now 81% under the pace number.

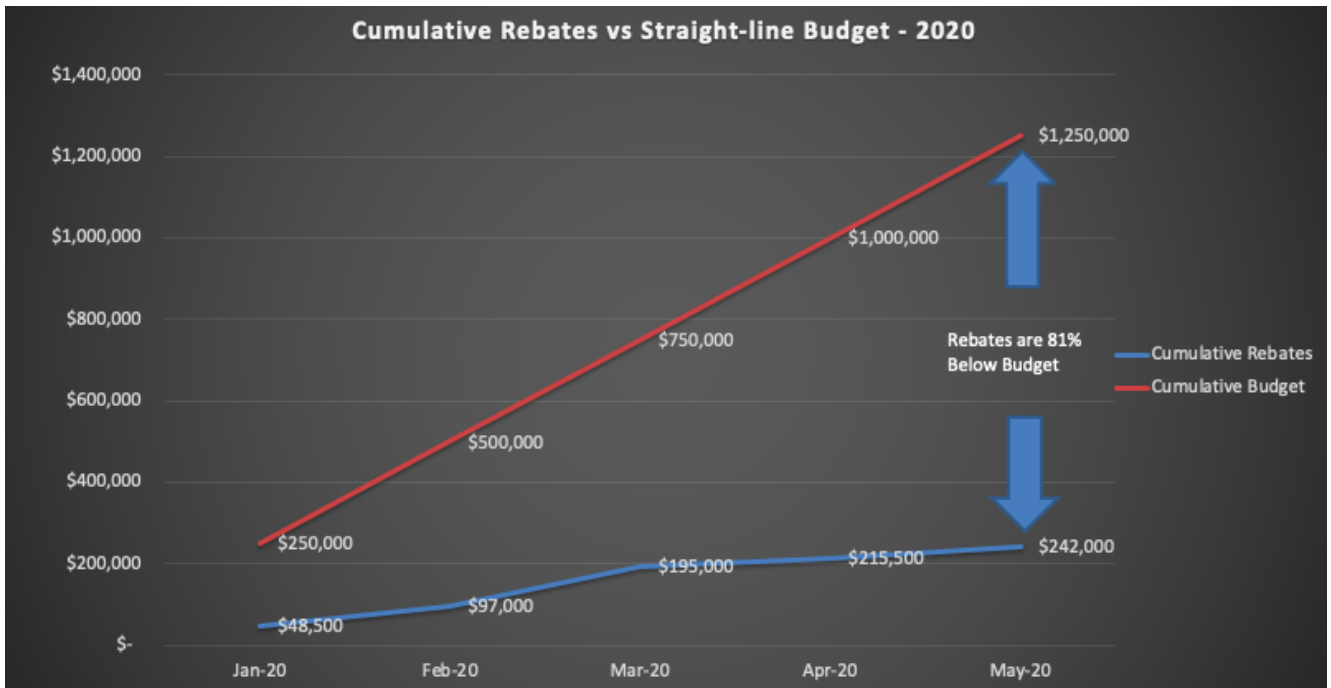


Chart: Barry Kresch

The most rebated vehicles were the Tesla Model 3 with 8 rebates and the Toyota Prius Prime, also with 8 rebates.

CHEAPR publishes stats on its website and makes an Excel download available, which is what we work from. There are two date columns and we use the application submission date rather than the sale date as that is what CHEAPR bases its own reporting on.

We have reached out to CHEAPR to request the names of the dealers associated with each rebate (for non-Teslas, obviously). Our request has been “escalated to management.” It is common for our club to get asked for dealer recommendations by people in the market for an EV. By the time they contact us, they have usually already visited one or two dealers and it wasn’t a pleasant experience. We have names of some dealerships that have been recommended by members, but this would be hard data and we think it will help, especially in areas of the state where we don’t have a lot of members. We also understand its limitations and will act accordingly. Dealership-level info is published in some other states, NY for example.

The CHEAPR board is supposed to meet in July. We have not heard about a confirmed date. According to the website, the program will have some revisions for 2020 and we eagerly await to hear what they are. We feel the current structure is not working and have offered our input, which has been described in prior blog posts, such as this recent post from [June 1](#).

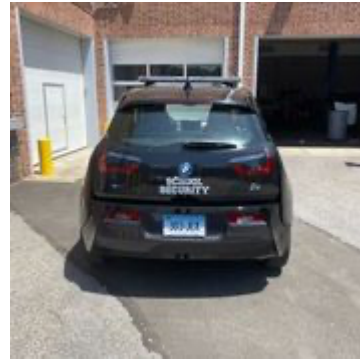
Blue Goes Green – Another EV for the Westport Police

Westport Police Department Receives Donation of Used BMW i3

The local police have been rather busy of late with the protests that have been occurring in the wake of George Floyd's murder at the hands of the Minneapolis PD, and, of course, coping with the stresses of the COVID-19 pandemic.

Not to lose sight of the significance of that, the greening of the municipal police force continues apace. The police department was recently the recipient of a donation of a used BMW i3 from a local resident. It is a 2015 REx model, which translates to an EPA-rated 72 miles of electric range, or up to 150 miles total, including the gasoline range-extender engine.

The vehicle has been customized for its duties and it looks sharp!



The “bimmer” joins a growing family of green vehicles as the police, part of the town’s push to net-zero, are testing a variety of vehicles for different use cases. This “new” addition is being used for security at Staples High School and adjacent Bedford Middle School, where security duty lasts 8-10 hours per day. It replaces a Ford Taurus that was consuming 6 to 8 gallons of gasoline daily, per Chief of Police Foti Koskinas. If we take an average daily usage of 7 gallons and multiply it by 200 service days per year (per the police), it works out to an estimated 1400 gallons of gasoline and 14 tons of carbon emissions annually. (Source for calculation: NASA)

There is a no-idling rule at Staples. Ironically, the most persistent offender has been the police since the patrol vehicle must remain running while on duty. Now they have emission-free idling running off the battery. When it comes to the police, this is why it is important to focus on gallons of gasoline used or saved rather than just MPG. A police vehicle spends thousands of hours idling over the course of its service life.

The low-speed patrolling around the schools means the electric drive will function at high efficiency.

Daily recharging? No sweat. There are two level-2 charging stations at Staples and the vehicle gets plugged in after hours.

Expanding Number of Green Vehicles

Along with the new arrival, the WPD has a Tesla Model 3 that was customized as a police cruiser and went into service during February, 2 plug-in Toyota Priuses that are used for parking and traffic enforcement at the town's two Metro-North train stations and downtown, and a Ford Explorer hybrid (not a plug-in hybrid) that was also acquired for cruiser duty this year. Before the Tesla and the hybrid Explorer, the standard vehicle for cruisers was a conventional Ford Explorer. The EPA-rated mileage of the hybrid Explorer is 28 MPG, compared to 16 MPG for the standard version. These 5 environmentally friendly vehicles, which comprise a little less than 10% of the total fleet, will enable the collection of data to refine the department's approach to future acquisitions.

Tesla Model 3 Update

This blog covered the vehicle entering service in February of this year [here](#) and [here](#). There was a planned public press event for when the weather turned warmer, which did not happen due to the pandemic. We have a few updates.

According to Chief Foti, the vehicle has been performing as hoped and he describes the ongoing relationship with Tesla as excellent, crediting them with being very responsive and having a continued willingness to work with the PD in terms of making upgrades.

As previously reported, the Model 3 is already making use of the Tesla cameras. The Tesla lights are incorporated into the police emergency lighting, and all of the accessories requiring electricity are wired into the large battery.

Since we wrote about the vehicle in February, there have been two additional upgrades. The default setting for the headlights is that they turn off one minute after the car

turns off. This was not enough for the police. Tesla did some software recoding and the lights now persist longer.

The biggest open question at the time the vehicle was put into service was whether the police would be able to use the computer that is native to the vehicle rather than install their own. This is a complex challenge due to the need to have an airtight firewall between the police databases that would be accessed and Tesla's proprietary information. It is still a work in progress but there has been one significant development. Working with Tesla, the police have installed stationary radar, which logs directly into the computer. If they get to the point where the Tesla computer can be fully utilized, it would save between \$5-\$6,000 in customization costs.

The i3 donation was not a planned event, but it wouldn't have happened had not Chief Foti, the department, and the town administration not demonstrated a vision for how to move the town forward in an environmentally-friendly way (which also happens to save money). The EV Club applauds and supports that vision.

Climate Action Week and National Drive Electric Week Events

An Active Time of Year for EV and Environmental Events

National Drive Electric Week, Climate Action Week, and Greta Thunberg, the young climate activist from Sweden, all make this the time of year to move from the sidelines and participate! These are some of the events in CT. Many club members have already registered to exhibit their vehicles at National Drive Electric Week (NDEW) events and to attend Climate Action rallies.

Green Wheels Expo – September 14, 10 am – 2 pm

This is the NDEW event staged by Sustainable Fairfield. Location: 140 Mill Plain Road lot (across from Rec Center), Fairfield. Registrations are pacing ahead of last year. There should be numerous cars, plus 7 dealers and Tesla will be offering test drives. Also on hand will be an electric school bus, electric bikes, electric lawn equipment, EV food truck, and a solar-powered car! [Register your vehicle.](#)

Climate Action Day – September 20

There are events around the state and the nation. Club members will be going to Hartford, New York, Westport, and other locations. EV Club CT is one of 80 organizations sponsoring the event in Hartford.

Hartford – Start time 11:45 am. Location: 210 Capitol Avenue, Hartford, CT. For more details and resources, visit [C3M Facebook page](#) and [Event Webpage](#)

Backgrounder on Greta Thunberg and [Climate Crisis Mobilization](#)

Westport Event on the Ruth Steinkraus Cohen Memorial Bridge at 11 am. The link to [register](#)

An important near-term priority is to oppose the natural gas plant currently undergoing permitting to be sited in Killingly. It isn't needed and, if built, will be operating long past the 2040 deadline for the grid to be carbon-free.

Electrify Your Drive NDEW Event in Old Saybrook – September 21, 11 am – 3 pm

There will be owners with their private EVs as well as dealer organized test drives. Also, antique EVs! And a Q&A session in the Pavillion. Location: 155 College Street, Old Saybrook. [Register](#)

Energy Fair and Green Expo in Southbury – September 21, 10 am – 2 pm

Location: 775 Main Street at the Gazebo Southbury Green. This is more a general green fair, but it has an EV showcase.

NDEW Madison – September 22, 1 – 4 pm.

Location: Madison Senior Center, 29 Bradley, Road, Madison. [Register](#)

2017: The Vehicles

EV Landscape

This is the first of several posts that will discuss the EV landscape from the perspective of the directions in vehicle production, the Federal tax credit, the latest with respect to efforts on the part of the State of Connecticut, and some observations about the global outlook.

Various pundits followed by this page had forecasted plug-in sales crossing the 200,000-unit threshold in 2017. That didn't happen, but it was oh, so close. According to Inside EVs, the final number for 2017 is 199,826, an increase of 26% over 2016. (This number excludes fuel-cell vehicles, which, though small, would have added another couple of thousand to the total). This follows a 37% increase in 2016 over 2015. December 2017 had the highest EV sales of any month on record with 26,107 units, up 5% over December 2016.

While this general sales trend is healthy and has withstood a prolonged period of moderate or low gasoline prices, overall sales volume remains in niche territory given the total car/light-duty truck sales of 17.2 million (of which 63% were of the truck/SUV persuasion).

There were 42 distinct plug-in models registering sales in 2017, quite a jump from 27 models just 2 years ago. The diversity of EVs continues to improve and includes vehicles with longer range and of larger size.

Of all of the new model introductions, the most notable are the first mid-price battery electric vehicles (BEV) with a single-charge range of over 200 miles: the compact crossover Chevrolet Bolt and the Tesla Model 3 sedan. The 200-mile threshold was thought to be a game-changer. So how are we

doing?

The Bolt rollout was gradual and full national distribution did not occur until fall 2017. It quickly rose to become the largest selling plug-in for GM with 3,227 units sold in December, a respectable number by EV standards. The Bolt sales figure for December is the second highest for a GM plug-in, bested only by the 3,691 Volts sold in December 2016.

Tesla, after reportedly booking over 200,000 reservations in the USA alone with refundable deposits, has only produced 1772 Model 3s since the first one rolled off the line in July. There was some encouraging news in that the December number increased to 1060 following November at only 345. Nonetheless, prospective Model 3 buyers must remain patient. If Tesla can wrangle their manufacturing bottleneck, and if some reservation holders don't bolt for a Bolt, the Model 3 at present appears to be the only plug-in that can approach a reasonable fraction of the monthly sales volume of a top-selling gasoline car (currently the Honda Civic at roughly 24,000 units per month. The top-selling vehicle is the Ford F series pickup at about 73,000 units per month.)

In the case of Chevrolet, the rise of the Bolt has correlated with a decline in Volt sales. Chevy sold 1937 Volts in December, a 48% decline from December 2016. This could be due to an easier to explain user proposition for a BEV relative to a plug-in hybrid (PHEV). Both offer industry-leading electric range in their class (Bolt – 238 EV miles, Volt – 53 EV miles + 370 gas miles). Both have been well-received. But the PHEV world is complicated to explain. The category has tremendous variation across vehicles from the perspective of engineering, performance, and range. And many PHEV drivers make efforts to maximize their mileage using the battery.

PHEV/BEV

That said, the PHEV powertrain isn't going away anytime soon. In 2017, the market was roughly split with PHEVs having a 53% market share (based on unit sales). The manufacturers are looking to introduce electric versions of their top selling SUVs and trucks. The only way to get there today is the PHEV format.

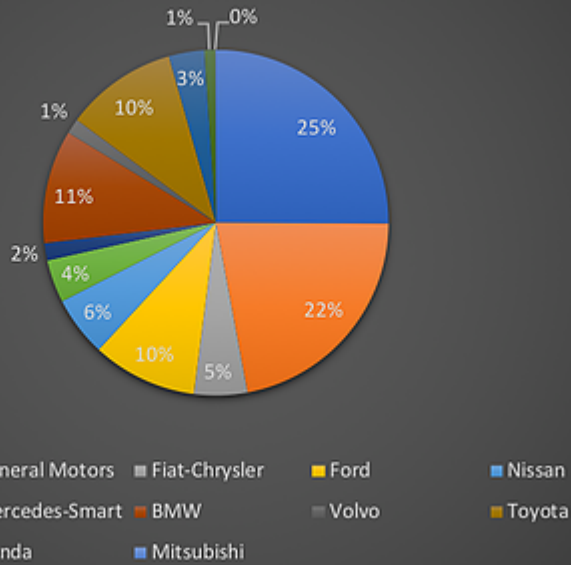
There were 2 introductions last year of mid-priced vehicles in these larger categories, both PHEVs. The Chrysler Pacifica (minivan – 33-miles electric) arrived along with the Mitsubishi Outlander (compact SUV – 22-miles electric). These join pricier options available from BMW, Volvo, and Mercedes. All of these have modest sales to this point (defined as under 1000 month).

Toyota, the company that pioneered the hybrid category with the conventional Prius parallel hybrid has finally produced a vehicle that is making a sales impact. This is the second generation plug-in Prius (PHEV), the Prius Prime. The electric range is 25 miles and the base MSRP is under \$30,000 before incentives. Sales of this model reached 2420 in December, higher than the Volt.

Another major manufacturer that has heretofore been mostly on the sidelines, Honda, introduced both a BEV and PHEV version of its clean-energy nameplate Clarity.

Below are the market shares in the US for each manufacturer as reported by Inside EVs.

2017 Share of EV Market by Manufacturer



The most obvious reason for a major change to the landscape is a ramped up Tesla Model 3. All of the major manufacturers have made announcements about dramatically scaling up the number and variety of EV models they produce. Within the next five years, it seems likely that between 100 and 200 new models will be available. These are the vehicles that we have seen specifically announced for 2018:

- Jaguar I-Pace – BEV, a first for Jaguar.
- Nissan Leaf – Not new, exactly, but a major redo is promised.
- Audi e-tron Quattro – First Audi plug-in SUV.
- Faraday Future FF-91 – The first car from a new company, headquartered in Silicon Valley, backed by Chinese company LeEco Electronics.

This is a good reference of currently available vehicles from Plugincars.com

2018 is the year that some manufacturers will bump against the ceiling of the Federal tax credit. More on that in the next post.

2017 EV Road Rally

2017 EV Rally

Our 2017 EV Road Rally was enjoyed by all participants this past Sunday, May 7. The rally covered roughly 30 miles, beginning and ending at the Westport/Saugatuck Metro-North Train Depot with a mid-point stop at the Wilton Go Green Fair.

These were the EV models spotted in the rally:

Tesla Model S

Tesla Model X

Chevrolet Bolt

Chevrolet Volt

VW eGolf

Mercedes S550e

BMW i3

Ford C-Max Energi

Mitsubishi i-MiEV

Joining us as a sponsor was Pedego Electric Bikes.



Videos from older rallies.

The EV Club began doing EV Road Rallies in 2013, which, at the time, was the first EV rally to have been held in Connecticut. Below are links to videos from the 2014 rally:

[Rally overview](#)

[Time-lapse video of rally route](#)