

Toyota, Tesla & Schumer

By John Benson

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1. Introduction

My Cup Runneth Over

- A quotation from the Hebrew Bible (Psalm 23:5)

Sometimes I worry about having a good subject for my weekly post, just not today. I had a good subject a week ago, and completed about two thirds of the paper, but decided to delay it a week (or two) because I kept being hit by really good stuff about EVs, and other things, many other things.

The EV things in the title are explored below.

2. Supercharge EV Sales, Big Time!

Several days ago I commented (probably in response to a reader comment to one of my posts) that it would be really hard to rid ourselves of internal-combustion (IC) powered vehicles and the attendant greenhouse gas emissions. Well, Senator Schumer has may have a proposal that will put a significant dent in this problem. I've always been impressed with Senator Schumer (Chuck Schumer, D-New York), but his latest proposal would mitigate this problem really quickly;¹

Senator Schumer proposes spending 465 \$Billion over 10-years to provide incentives for current owners of IC-powered cars to trade those in for hybrid or battery electric vehicles (BEV), and one assumes send the former to car crushers. This is not a new idea. My home state (California) and I'm sure a few other states have cash for clunkers programs that are similar to this in concept. However, by rolling this out nation-wide the senator hopes to take 63-million IC powered vehicles off of the road by 2030.

And this would make Elon very happy (see section 4).

3. Toyota Finally Joins BEV Club

Toyota clearly has won the hybrid wars, so it is rather curious that they don't make any battery-electric vehicles (BEVs). The closest they get is the Prius Prime, a plug-in hybrid, and they also sell a few of their Marai fuel-cell powered cars. Also, as I've noted in one or two prior mobility articles, they have been working on the next generation lithium-chemistry batteries with solid-state electrolyte (commonly known as solid-state batteries), but so have several other major manufacturers, including Volkswagen and BMW..

¹ Laura Sky Brown, Car and Driver via MSN Auto, "Sen. Schumer Proposes Huge Gas-for-Electric-Car Trade-In Program", 10/25/2019, <https://www.msn.com/en-us/autos/news/sen-schumer-proposes-huge-gas-for-electric-car-trade-in-program/ar-AAJjYWD>

According to a recent article, referenced here,² it looks like Toyota may win this war. They apparently plan to unveil an autonomous people mover in next Summer's Olympics in Tokyo that uses these solid-state batteries. Future production Toyota BEVs will also use these batteries, but are probably a few more years down the road. These batteries should be smaller, less expensive and faster-charging than existing lithium ion batteries, and Toyota may be the first to market with them.

Also, go through the link below to see some interesting tiny vehicles Toyota is proposing for the home market (Japan) and previewing at the Olympics, and at least one will be released (in Japan) shortly thereafter.

<https://qz.com/1734790/toyota-debuts-very-very-tiny-electric-vehicles-for-2020-olympics/>

4. Tesla

Several new pieces of news from Tesla. I've been reporting with short posts in real-time on the Gigafactory 3 in China, but there is some more news below.

4.1. Solar Roof Version 3

Elon has announced that the solar roof is finally ready for prime time, and he will begin ramping up production in Gigafactory 2 (Buffalo) shortly. A report from a local source is here.³ Per Elon, the cost of the V3 solar glass will be cheaper than re-installing a roof and adding on solar panels. Tesla also increased the size of the tile, power density and reduced the number of parts to assemble it.

4.2. Tesla's Third Quarter

I already reported the third quarter production numbers in a post about a month ago, but I am repeating them below (with other 2019 quarterly results) to avoid the link to that paper.

- First quarter 2019, 63,000 worldwide deliveries
- Second quarter 2019, 95,200 worldwide deliveries
- Third quarter 2019, 97,000 worldwide deliveries

In an earning call, Elon provided the following additional information.⁴

Revenue and Profit: *"Tesla announced its first profit since 2018—a slim net income of \$143 million. More importantly, Tesla was able to achieve this number while generating \$6.3 billion in revenue, only \$23 million less than last quarter."*

² Steven Loveday, Motor1.com via MSN, "Toyota plans to unveil solid-state battery electric car next year", 10-23-2019, <https://www.msn.com/en-gb/cars/news/toyota-plans-to-unveil-solid-state-battery-electric-car-next-year/ar-AAJe2Gc>

³ Hannah Buehler, WKBW ABC Buffalo, "Tesla: Ramping up solar roof production in Buffalo", Oct 24, 2019, <https://www.wkbw.com/news/local-news/tesla-ramping-up-solar-roof-production-in-buffalo>

⁴ Rob Stumpf, TheDrive, "Tesla Q3 Results: Increased Deliveries, Decreased Costs, and a New Gigafactory", October 24, <https://www.thedrive.com/news/30610/tesla-q3-results-increased-deliveries-decreased-costs-and-a-new-gigafactory>

Model Y: "Tesla subsequently announced that it was ahead of schedule in preliminary Model Y production and is slated to begin shipping the vehicle in summer 2020, a full quarter before its original planned launch."

Gigafactory 3: The first complete Model 3 cars are rolling off of the line at this Shanghai facility. This is being categorized as a "trial" production run.

Other Future Production: The table below is from the referenced source with additional remarks here: the fourth Gigafactory will be in Europe, and its location will be announced by the end of the year. Right now European sales are causing a shortage of Model 3s in the U.S.

Installed Annual Capacity		Current	Status
Fremont	Model S/X	90,000	Production
	Model 3	350,000	Production
	Model Y	-	Construction
Shanghai	Model 3	150,000	Pre-production
	Model Y	-	In development
Europe	Model 3	-	In development
	Model Y	-	In development
United States	Tesla Semi	-	In development
	Roadster	-	In development
	Pickup truck	-	In development

TESLA

| Tesla plans to manufacture the Model 3 and Model Y in the U.S., China, and Europe.

Go through the link in the reference above for additional information.

More Good News for Tesla (not so much for GM): per the reference here⁵ "Tesla shares soared 17% Thursday after the electric car maker surprised Wall Street by delivering on chief executive officer Elon Musk's promise of a profit in the third quarter, even as doubts remained about its long-term prospects.

Trading at \$298, Tesla's market capitalization was \$53 billion, surpassing General Motors' \$51 billion stock market value and making it the United States' most valuable car company."

⁵ Neha Malara and Noel Randewich, Reuters via MSM Money, "Tesla overtakes GM as the most valuable US automaker", Oct 25, 2019, <https://www.msn.com/en-us/money/companies/tesla-overtakes-gm-as-the-most-valuable-us-automaker/ar-AAJiSYV>