

Properpolymers

Electric Vehicle Growth and what it means to US!

According to the International Energy Agency (IAE), Electric Vehicles (EV's) will grow from 3 million in 2017 to 125-220 million by 2030. The IEA also predicts the world car count will hit 2 billion between 2035-2040. EV's will account for approximately 1% of the vehicle population by 2035. Much of the growth in the EV market is driven by government regulatory policies. These policies include credits, subsidies and EV quotas for consumers and manufactures, as well as tightening emission standards and increased fuel taxes. So, basically taking your money and giving it to others to develop a market that might not otherwise exist or grow (I digress).

You may ask why 1% of the vehicle population is driving so much hype in the automotive industry. There are a number of reasons for this. Forbes predicts that by 2030 EV's will account for 28% of the worlds new car sales, and by 2040, EV's will account for 55% of the total new vehicle sales. "The pace of electrification in transport will be fastest in Europe, where 44% of light vehicles will be electric by 2030, followed by China (41%) and the US (34%), while Japan will lag behind with just 17% of cars being electric".

The projected growth in the EV market is driving significant investments by the traditional auto manufactures, as well as a number of EV startups. A study performed by AlixPartners in Southfield, MI predicts that by 2023 a whopping \$255 billion in R&D and capital expenditures will be being spent globally on electric vehicles, and that some 207 electric models are set to hit the market by 2022. Although **Tesla** has garnered most of the headlines related to EV's, there is plenty of competition coming. **General Motors** announced this year that it plans to deliver at least 20 new EV's to the market by 2023. **Ford** announced that they will invest \$11 billion to bring 40 fully electric and hybrid vehicles to the market by 2022. **FCA** announced that it will spend nearly \$7 billion to electrify Jeep, Maserati and Fiat brands in the next 4 years. **Mercedes-Benz** plans to offer at least one electrified alternative in all of its vehicle segments by 2022. Ultimately, Mercedes expects to offer 50 electrified variants. A little over a year ago, Mercedes announced plans to invest \$1

Billion in the Tuscaloosa AL facility. Most of this investment will go toward electric SUV's and a new battery plant. In South Carolina, **BMW** produces and electric version of the X5. So far in 2018, EV's have accounted for 7.7% of **BMW** North America Sales. By 2025, **BMW** expects that up to 25% of the vehicles they produce will be electrified, including an all new electric X3 from Spartanburg by 2020. **BMW** is investing in Spartanburg so they can produce EV's or combustible engine vehicles on the same line. **Volkswagen** plans 27 electric cars by 2022. Like most other companies, VW is focused on the Europe and China, but are committed to EV production in the US as well.



In addition to the investments by traditional auto manufactures, money is pouring into private electric companies as well. Funding of private EV companies surged from \$200 Million in 2013 to \$2 Billion in 2016, and it is only growing from there. These startup includes Rivian, who has raised \$500M in investments. Rivian acquired the Mitsubishi plant in Normal, Illinois. They expect their first production vehicles to roll off the line in 2020. In addition to Rivian, there is a slew of other startups looking to get off the ground including Lucid Motors who secured \$1