

EV and Solar Myths and Realities: Panel/Q&A

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January 19, 2023

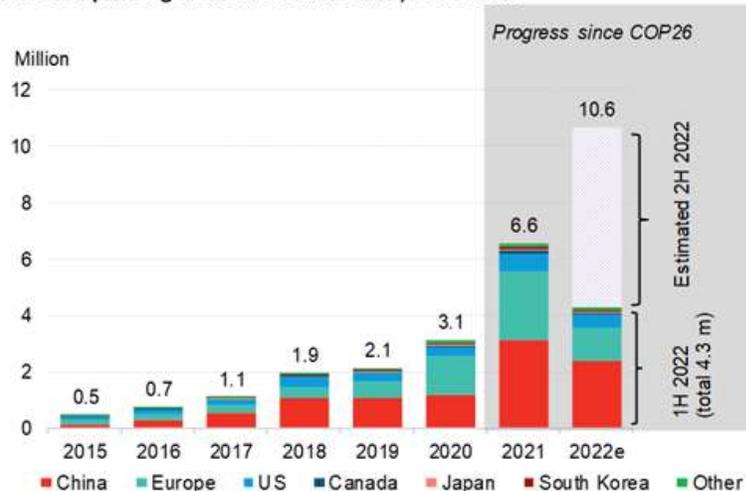
Also known as Electric Vehicles or Bust!

Your grandchildren's car will be electric

Electric vehicle sales topped **10 million** in 2022, up from 6.6 million last year, and overall spending on clean transport worldwide exceeded \$450 billion

In China, the largest car market in the world, almost **30%** of all new vehicles sold were fully electric in 2022 - up from 13% in 2021 and just 5% in 2020.

Figure 1: Global passenger electric vehicle sales, 2015-2022



Source: BloombergNEF. Note: Includes battery electric, fuel cell and plug-in hybrid vehicles. Of the EV sales in the first half of 2022, 72% were battery electrics, 28% were plug-in hybrids. Fuel cell vehicles accounted for less than 0.2%.

The national targets set by **automakers and governments** to phase out internal combustion engines (ICE) cover nearly **41% of the global passenger vehicle market by 2035**

Automakers with 2035 ICE phase-out targets account for 23% of the market, a slight increase from 19% a year ago. If you include **automakers' targets for 2040, it increases to 30%.**

END OF THE INTERNAL COMBUSTION ENGINE?

Several countries have set a date to ban the sale of new gas and diesel-powered vehicles, a major step in an electric-only future.



Austria, China, Denmark, Egypt, Germany, India and Taiwan have proposed similar bans but have not set specific targets.



Source: caranddriver.com | November 25, 2020



Tesla is NOT the only electric vehicle in town



And many more, including Teslas

EV Vocabulary

Range Anxiety – Can I depend on the range shown in my vehicle to make it to and back from my destination?

Gas Range Extension - Also known as plug in hybrids, this class of vehicles have back up systems fueled by gas in case the battery is drained.

Level 1, 2 and 3 Charging –

- Level 1 is a 120-volt three-pronged wall outlet, charges 4 to 5 miles per hour
- Level 2 is a 240-volt connection like a plug for an electric range or dryer can add approximately 38 miles of range per hour
- Level 3 also known as DCFC or Fast Charge stations are commercial and use a 480-volt connection. Can add approximately 90-100 miles of range in 30 minutes.

Miles per kWh – typical range is 4 to 6 miles per kWh

One Pedal Driving – driving mode in which deceleration harvests energy to charge battery (nominally), also serves to slow vehicle and negates the need to step on the brake!



OK, so what about all the things you've heard about Electric Vehicles....

What about all those batteries?

There was a 38% increase in global battery manufacturing capacity, batteries were found to last far longer than previously predicted, and more recycling capacity came online than there was battery scrap available.

Source Bloomberg NEF



Remembering the **WHY** of transitioning to Electric Vehicles.....

The study shows that the adoption of zero-emission vehicles has already reduced oil consumption and carbon dioxide emissions, with an **estimated 1.7 million barrels of oil per day not being used** by the end of 2022. That's up from 1.5 million barrels per day in 2021 which was not used or needed.

BloombergNEF's Zero-Emission Vehicles Factbook