

# TECHNICAL REPORT



## THE ELECTRIC VEHICLE “REVOLUTION”

- INTERESTING FACTS & FIGURES ABOUT ELECTRIC VEHICLES
- PART I



You may be thinking that I-CAR New Zealand have produced a number of articles on electric vehicle technologies over the last few years, and that would certainly be true.

A helicopter view of automotive electrification from a global perspective highlights a rapid progression of battery technologies, and where they are being utilised. All of this demands further investigation - and for the collision repair industry in particular, how this will affect the way we will repair vehicles in the NZ carpark in the future.

Fossil-fueled vehicles continue to dominate the market place (and will do so for the immediate future), but with governments around the world pushing for “greener” transportation targets by offering purchasing incentives to the motoring public and ever – stricter emission reduction targets for vehicle-makers, electric vehicle sales are on the rise in virtually all of the world’s developed countries. Indeed, many governments are setting dates within the next ten years or so to end the production of gasoline and diesel-powered vehicles.

The Covid-19 pandemic has had a massive negative affect on new vehicle sales and production around the world (Chinese, European and Indian markets have been cut in half, while the USA has seen sales fall by a third in 2020). In contrast to this, electric vehicle sales in the same period rose by **43%** to over **3 million** units globally.

Battery Electric Vehicles (BEV) & Plugin Hybrid Electric Vehicles (PHEV) sales made up 4.2 % of the global car market in 2020 - up from 2.5% in 2019 ....

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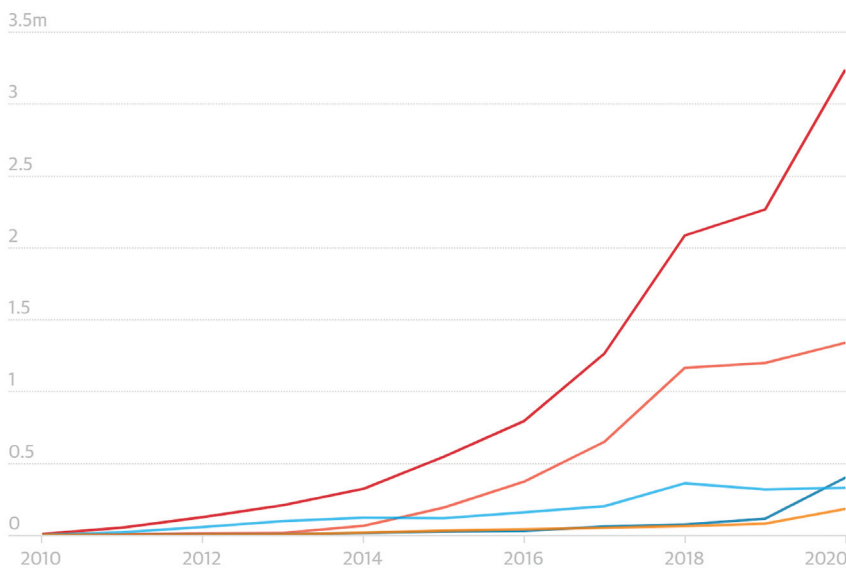
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## Global sales of electric cars accelerated in 2020

Sales of battery and plug-in hybrid electric vehicles

■ Global total ■ China ■ Germany ■ US ■ UK

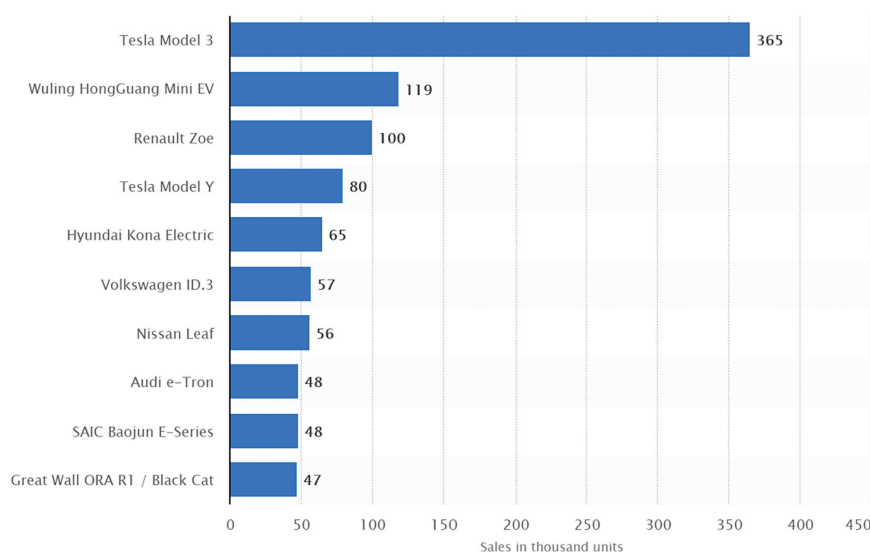


Guardian graphic. Source: [www.ev-volumes.com](http://www.ev-volumes.com)

The relatively high initial purchase price of electric vehicles, as well as the motoring public's perception of "range anxiety" continues to restrict sales growth, but as technologies and production efficiencies improve, costs are coming down and public perception is changing ...

The main reason for the the growth that has occurred is simple – it's a better technology. No noise, no pollution, lower maintenance / running costs and better acceleration.

Best – selling Battery Electric Vehicles in 2020 (in 1,000 units)



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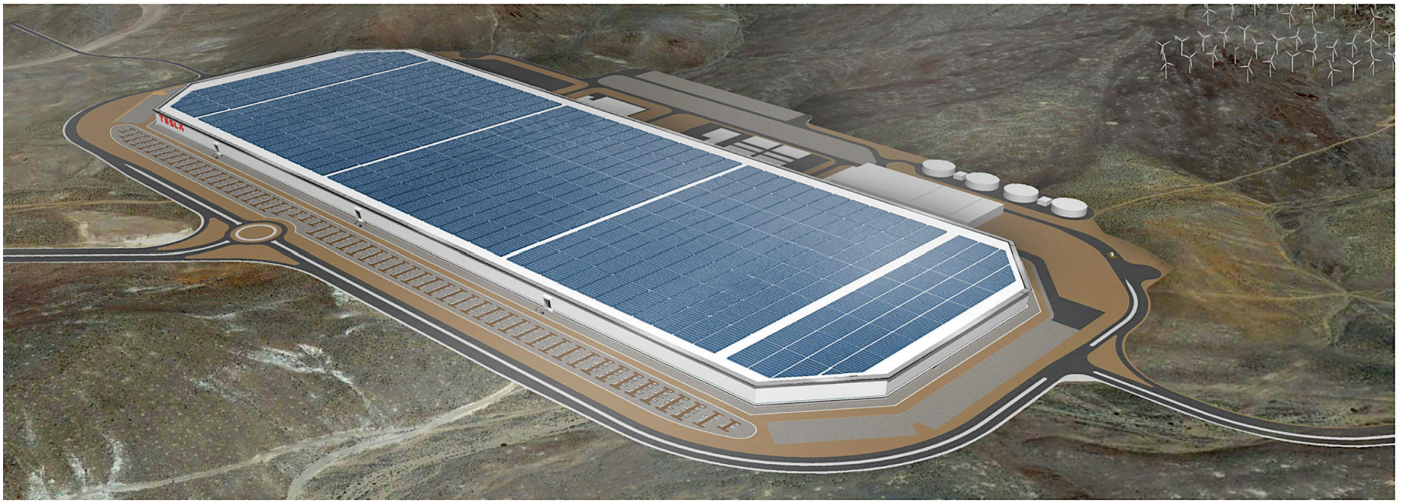
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It is hard to ignore the direction vehicle-makers (and governments) are going, now and in the not-to-distant future: -

To help trigger the “Green Economic Recovery” from Covid19, the UK plans to bring forward the ban on fossil-fuel vehicles from 2040 to 2030.

## Tesla Gigafactory in Nevada USA ...



## Tesla Gigafactory in Shanghai China ...



**Tesla produces one Model Y every 2 minutes, media finds after Giga Shanghai tour**

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**Volvo** plans to sell only electric cars by 2030, with their chief technology officer, Henrick Green stating “there is no long-term future for cars with an internal combustion engine”



**Ford** has pledged that all of its cars on sale in Europe will be electric by 2030, in the latest move by the world’s biggest auto manufacturers to set out plans to move away from polluting internal combustion engines before looming bans on fossil-fuel vehicles across the world.



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In the USA, Ford is the second largest manufacturer of Hybrids ...

## 2021 Ford Mustang Mach-E Electric SUV



*These articles have been written by Martyn Lane: I-CAR Instructor, Weld Test Administrator and Technical Specialist to the auto body industry*

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