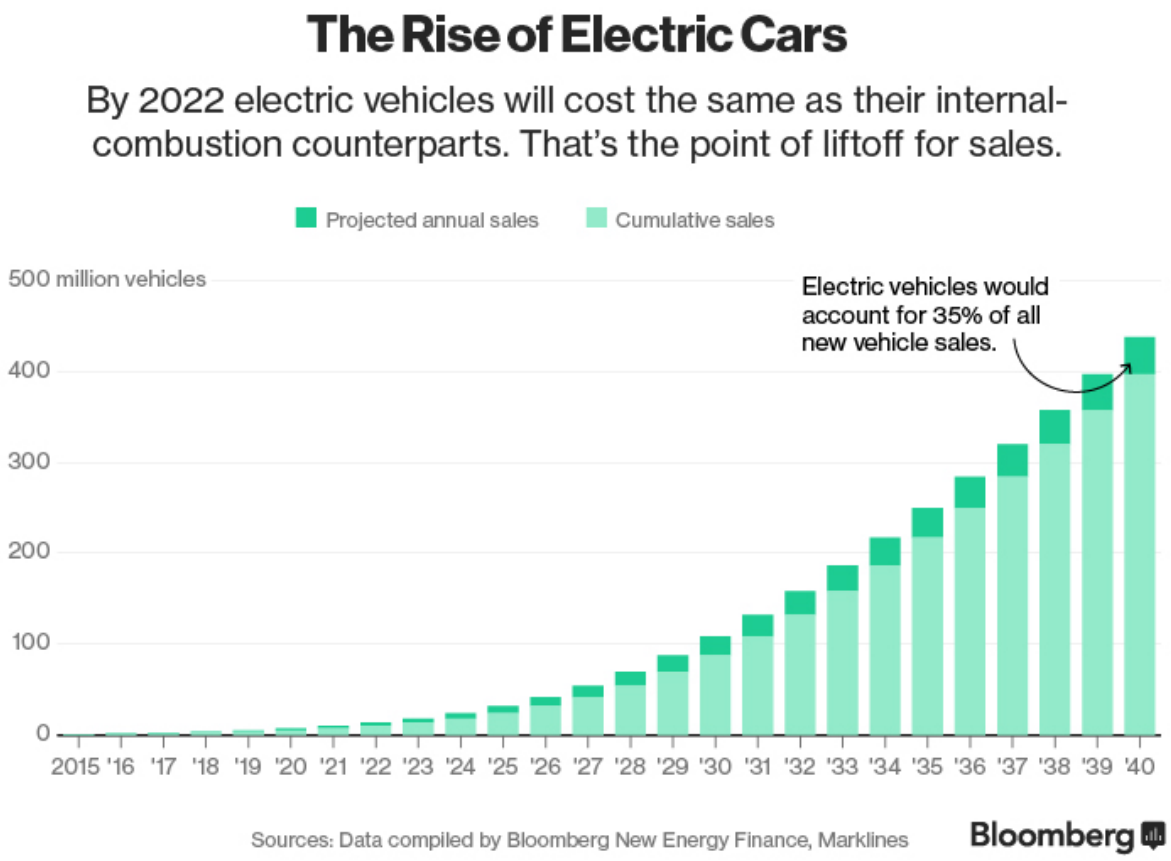
Transport

Transport

Cars, Vans, Buses & Heavy Goods Vehicles

Transport is an area that is showing promise as electric vans & cars aim to displace petrol & diesel. The most expensive item in an EV is the battery and battery prices are coming down year on year. It's expected that in 2022, EVs will be an equivalent price to petrol/diesel vehicles. At that point, sales should go from less than 1% of total global car sales up to 35% by 2040. The UK is currently planning to ban petrol/diesel cars by 2035 and may bring this forward, dependent on whether progress is made as expected.



Challenges around electric cars include:-

1. Range between re-fueling. Some of the higher end models can now reasonably achieve 250 miles but the cheaper models have much lower ranges
2. The time it takes to re-charge an EV. This can vary from overnight at home to half an hour using a supercharger. Both will be inadequate unless there are more charging stations than there are currently fuel pumps
3. Extent of recharging stations. These are gradually being rolled out and things are improving each year
4. Incompatibility of recharging options. The different EV vendors really need to agree a common standard in terms of shape of charger and power options. Government will need to intervene if the industry cannot resolve this.
5. Use of Cobalt in batteries. There are 2 problems here:-
    - Cobalt is a comparitively rare element so there won't be enough of it to supply all EV vehicles if everybody has one.
    - Cobalt is mined in Africa often using child labour and causing pollution to the land

Electric Vehicles work well for cars, vans and buses and potentially heavy goods vehicles (due to them having long wheelbases that could support battery storage).

Ships, Aeroplanes & Trains

Batteries are not really a viable option for ships (which require more power) or for aeroplanes (which would not be able to carry passengers and heavy batteries) In both cases, Hydrogen is currently looking like the best power option. Many railways are currently electrified but hydrogen is another potential candidate for trains where electrification is not viable.