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**Which is better for our plant: petrol or electric?**

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## **INTRODUCTION-**

The following report will consider the future of fuelling automotive vehicles. We are in a pivotal period of transition within the automotive and engineering industry; fossil fuels are running out and people are becoming more conscious of the impact of their fuel consumption and carbon footprint on the environment. Furthermore, there has been significant progress in alternative fuels such as hydrogen and electric. Indeed, many motorcycles and cars are now reaching the same performance potential and specifications as more traditionally manufactured vehicles. Additionally, with brands like Tesla at the forefront of electric innovation, we can see that there is increasing demand and popularity for manufacturers to aim towards a more carbon efficient or neutral future. Some may argue, it is essential for manufacturers to keep up with the latest thought processes, technological advancements, and customer requirements of the Generation X driver in order to be successful and continue to dominate the engineering sector moving forward. What follows will be a brief exploration of current working theories in the 'petrol versus electric' debate.

## **LITERATURE REVIEW-**

Firstly, we must consider the uses, limitations, and implications of powering motor vehicles by petroleum or crude oil (petrol). Petrol has been used widely in order to help policymakers develop appropriate pricing and taxation systems... to help decide future investments and decisions on oil reserves... to allow for planning of future energy needs ' (pg 2, Zheng Li , John M. Rose & David Hensher, 2010). This is because it leads to high performance cars and bikes and is a desirable commodity. Liverpool Victoria (LV, 2022) state that '83% of UK homeowners own at least 2 cars, compared to the 1980s when only 15% of households owned any car'. It can be inferred that this is due to increase in income, availability, and necessity. This proves that petrol cars are a desirable commodity.

## **DISCUSSION**

### **Thoughts on Petrol-**

Petrol is good in terms of performance for the consumer because it allows cars to be desirable for drivers and mechanics alike. Petrol adds an element of adaptability for drivers; it means that cars can be tuned to go faster, to run more efficiently on their fuel consumption and their tanks easily refilled. And petrol cars make sound which is safer when in a car park or even just trying to cross the road as you can hear the cars coming.

Of course, there is familiarity with petrol cars. Undoubtedly, there are going to be drivers who are reluctant to make the switch to an alternative energy and actually may find this very intimidating. It could be argued that older drivers may not understand how or why the switch to an electric engine, and this may hold the industry back as a whole from making the switch completely. All the infrastructure that road users need is already in place in the way of petrol stations.

Additionally, petrol cars are much cheaper than electric cars. This makes them far more accessible for average drivers. Cars are able to be picked up used and, if repairs are needed, they are more easily completed than if they require specialized components. For many, they feel they will simply never be able to afford an electric car.

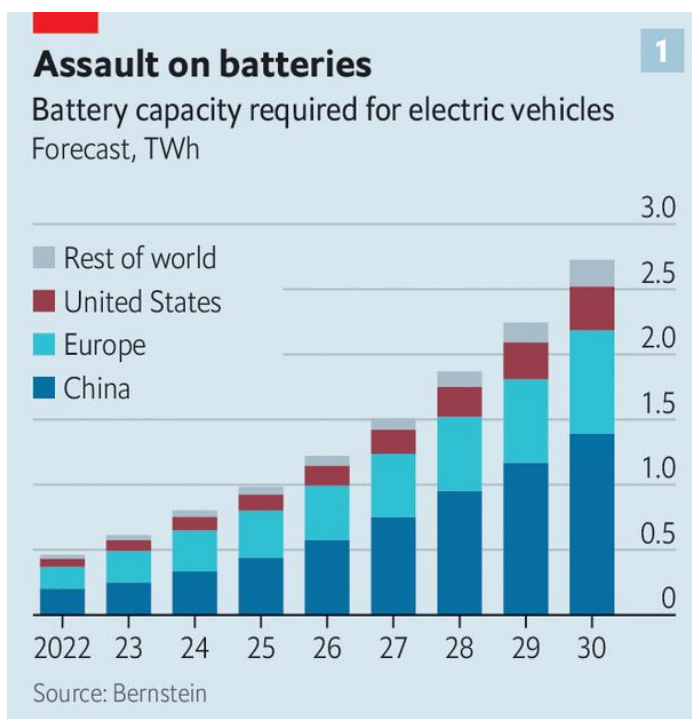
It is also true to say that some drivers simply don't like electric cars. They want to hear their cars, feel the engine moving the car whilst they are driving, and they want to impress other drivers with the size and noise of their engines. When taking long journeys, it is easier to stop and refuel than to sit and wait for your car to charge- which can also be costly. It is hard to believe that one day all cars may be electric- this seems a long way off.

Petrol is good for manufacturers as it is easier and more cost effective to be made whereas a battery has many other components. Furthermore, all prior knowledge about engines and components has been derived from the petrol engine. There is proven success in the established way of doing things and to alter processes now requires a change.

## The Environment

Petrol does damage our environment when it is being burnt. However electric cars may seem less harmful because there are no emissions coming from the car however the process of making a battery for a car is more damaging to them environment then burning petrol.

The growth of electric vehicles is undeniable. Manufacturers are setting more and more ambitious goals all the time for their output and the growth seems exponential. Bloombergnef states: “Battery-powered cars may zoom from 10% of global vehicle sales in 2021 to 40% by 2030” (The Economist, 2022). This is further supported by the forecast chart below. It is clear that the demand for batteries for electric vehicles is huge. This is problematic because it is actually more carbon inefficient to produce these batteries than to use petrol; petrol is a raw material and electric batteries requires a process of manufacturing. All of this has resultant carbon emissions which are damaging to the environment.



The Economist

## **Is it worth to change to electric vehicles?**

Notwithstanding that electric vehicles are out of reach for most people with average salaries, the structure may not be able to keep up with growth. It is clear there is exponential growth in the electric car industry but the charging points and amendments to factories and machines that is necessary simply cannot keep up. It is too costly and too time-consuming.

A benefit of making electric vehicles are the jobs it creates such as fitting the stations, maintenance on the stations, the ground that they would be placed on which most the time is already petrol stations. But all these positives don't detract from the fact that they say an electric car battery's is as harmful as running a petrol car for 10 years and I don't see why we should just change one harmful thing for another I believe we should focus on find an Eco-friendlier way to power our vehicles. But electric isn't it as the damage that is needed to be done to the environment to create a battery is more damaging than a petrol car.

Or less damaging such as synthetic fuel or hydrogen fuel which would be a different route this would means the engines; we use at the minute wouldn't work and manufactures would have to remake all the engines that go in the cars again to be powered by these fuels.

However, there is an alternative; conversion and hybrid cars may overcome these issues. It is possible to convert older, used cars into battery powered vehicles which would make them available to a broader spectrum of people. This would open up job opportunities for employees and stop so many older cars being scrapped. Secondly, hybrid cars use both petrol and electric power. This reduces the carbon emissions by limiting petrol consumption but overcomes the inconvenience of having to stop constantly and recharge on long journeys. Indeed, some of these vehicles are even self-charging so they are highly convenient to the owner. I think this is the way forward.

Some critics may argue the electric car batteries do more harm to the environment then petrol or diesel the young people's trust considers: "Estimates suggest that 150kg of CO<sub>2</sub> are released for every 1 kilowatt hour (kWh) of battery capacity"(ypte, date unknown, acc: 2022) . This means an average electric car battery is around 300 miles capacity and in turn to make the

battery go for 300 miles it would add around 9 tons of co2 emission into the air. There fore this shows that a electric car to me made makes more co2 emissions then a petrol or diesel.

### **CONCLUSIONS-**

In conclusion, Helmers and Marx (2014) write that the 'life cycle impact of BEV in categories other than the global warming potential reveals a complex and still incomplete picture'. With the lack of knowledge and information it would be an informed and somewhat foolish choice to completely take petrol cars out of the equation. As 'used cars can also be converted from combustion to electric [and] this way, it seems possible to reduce CO<sub>2</sub>-equivalent emissions by 80%' (ibid) I think that hybrid vehicles and eventually converting used vehicles is the way to go when the manufacturing processes have been streamlined and fine-tuned.

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