



Benefits and disadvantages of electric vehicles



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Introduction

The future of the engine has vastly changed throughout the last years. This is due to users across the world attempting to reduce emissions affecting climate change. However, Electric cars have drawbacks, including their dependence on mining rare earth materials like lithium and cobalt, which can harm the environment.

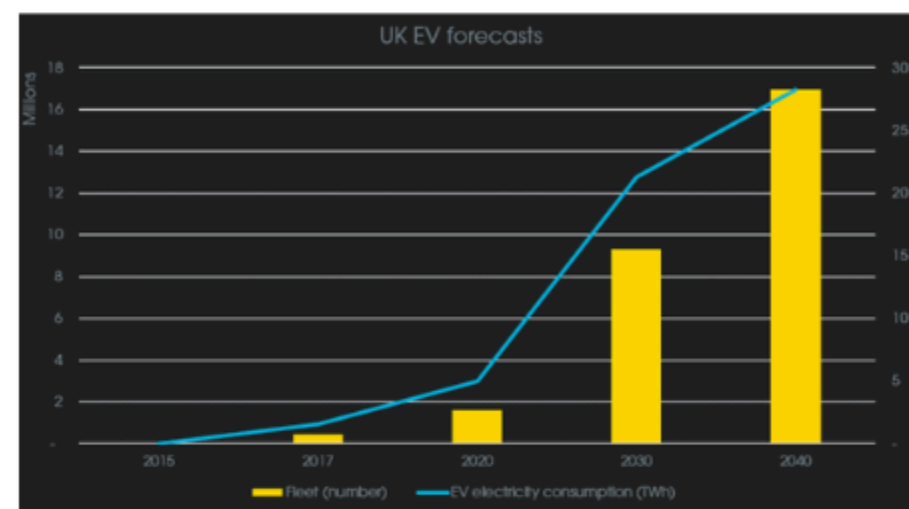
Importance

The importance of understanding the benefits and disadvantages of electric vehicles in the context of engineering lies in how it directly influences design decisions, innovation, and the future development of transport systems.

“Electric Car Road Tax Guide – Do I Need to Pay? | RAC Drive.” www.rac.co.uk, 2026, www.rac.co.uk/drive/electric-cars/running/electric-car-road-tax-guide-do-i-need-to-pay/.
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Perry, Tristan. “26 Electric Car Advantages and Disadvantages.” [Green Car Future](http://greencarfuture.com/electric/advantages-disadvantages), 5 Jan. 2019, www.greencarfuture.com/electric/advantages-disadvantages.

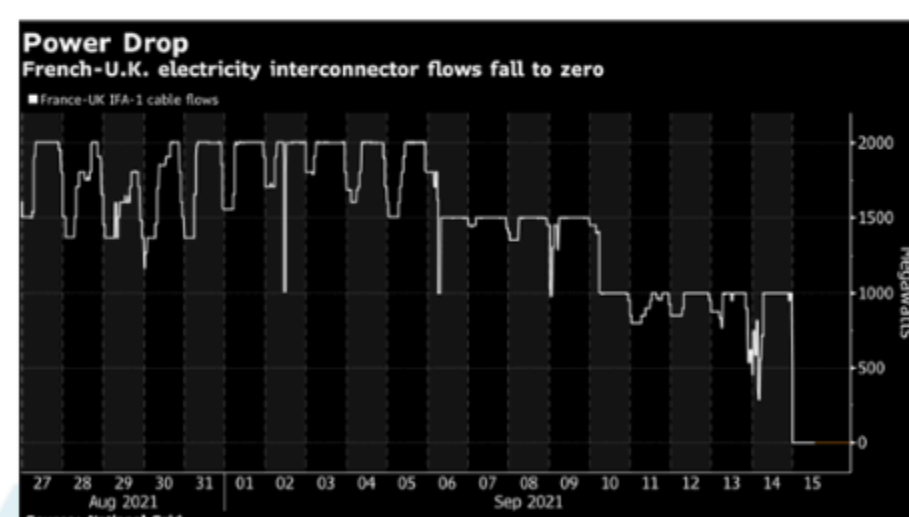
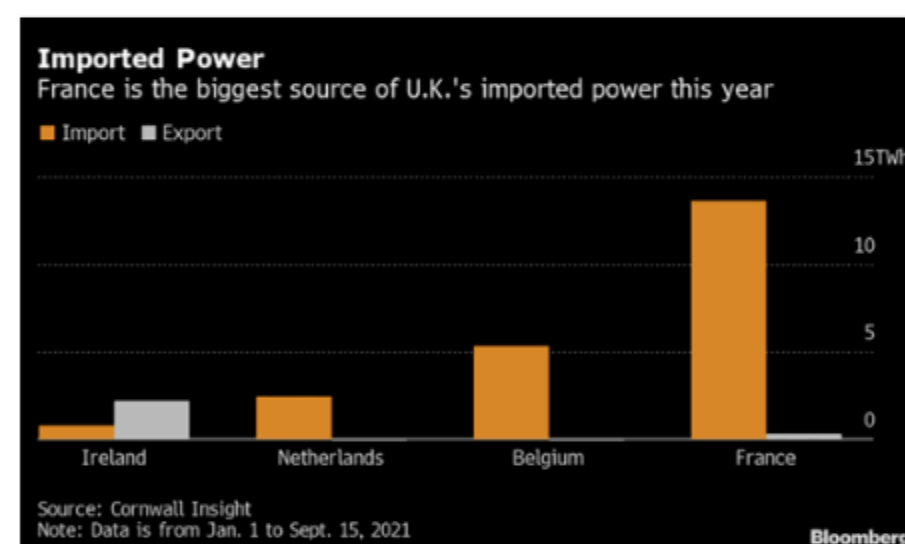
Key concepts

during the lecture there was numerous discussions on the topic of electric vehicles and whether they are as beneficial as they are portrayed, the things that affect the usage of electric vehicles can be seen in the diagrams shown. Due to the increase in production of electric vehicles we have the need to increase the production of electricity, this has been proven difficult due to the amount of area on facility needs. The current facilities are barely producing enough electricity to keep up with demand as of now and due to this if there was ever an issue with a facility being able to produce power it could cause numerous house holds without power due to them not being able to store extra electricity, also meaning they wouldnt be able to charge there EV, This then would affect them from being able to travel.



What we are proposing:

50 locations	Cost: £0.5bn – £1bn
50 strategic motorway service locations will allow 95% of drivers in England and Wales to be within 50 miles of a charging station, regardless of their direction of travel.	50 future-proof, high powered grid connections will cost: £0.5bn – £1bn. This equates to 66p per car per year over the life of the assets.
How could this be paid for? Conversations are required across industry and Government departments to agree the best way forward. Options include:	
Private sector	EV drivers to pay a premium for ultra-rapid charging on the motorway
Via tax	Government funding through department budgets or other allocated pots
Drivers	Through vehicle excise duty or car tax
Electricity bill-payers	As part of wider network costs



Innovations and applications

Due to the desire and the way EV have been portrayed the high majority of house holds now have them but due to this Electric producing companys are feeling the strain of what they can do even to the point of industrys talking to the government about ways to be able to keep the supply higher than the demand, This has ended in discussions on whether to put premiums on rapid chargers, taking from tax and even drivers having to pay via vehicle excise duty or car tax.

Key takeaways

- Efforts made to reduce climate change and emissions are increasing the market for EV's
- due to the materials needed to create batteries in the EV's, they are not entirely environmentally friendly
- Implementations such as increased taxes may be introduced
- the rising demand for EV's could damage electrical infrastructure
- systems for producing power are under pressure due to EV's
- to create a sustainable future, pros and cons for EV's must be balanced