

## ANGLAIS IENA 2020 - Dialogue 23 - Are Electric cars the solution to transport emissions in the UK?

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A: Here in the studio to discuss energy policy today is David Stone. David, encouraging more people to use electric vehicles is at the heart of the UK government's strategy to tackle climate change. That's because transport accounts for 23% of the UK's CO2 emissions - more than any other sector.

B: Yes, Lisa, but change takes time. Although up 70% on last year, only about 1.1% of new cars sold this year are electric, and the market for used electric cars barely exists. As most UK drivers keep their vehicles somewhere between one and 15 years, many drivers won't be thinking about buying an electric model any time soon.

A: Some countries are aiming to totally ban sales of new petrol & diesel cars. Iceland, and the Netherlands, by: 2030 and other countries such as France, the UK and Spain targeting 2040.

B: I question whether that is realistically possible. I don't think the infrastructure changes can be completed in time.

A: It's true that huge infrastructure changes are needed - most of all, we need thousands of new charging outlets. Another difficulty: because fuel tax is an important source of revenue for governments - and electric vehicle users pay lower taxes - changes to the tax system may be required. But the biggest challenge is convincing car owners that electric vehicles suit their needs.

B: Choice is also a limiting factor, especially in the delivery van sector. The availability and cost of e-Vans is much too expensive for many small companies, which have a small turnover. There are more choices of cars but they are aimed at the top end. Few all-electric models are available for less than £20,000, and buying a new Tesla Model 3 costs about £37,000.

A: All true, and although rapid advances in battery and charging technology are being made, we desperately need radical changes in planning for electric vehicles. How are people living in apartment blocks, for example, going to be able to charge their vehicles? Should they expect charging to be available at bollards or lamp posts along their street?

B: Another question is - who's going to pay for installing the network? It is widely assumed that the private sector will build, operate and maintain the charging infrastructure in the UK. But businesses haven't been attracted because profit margins remain small. There are some signs of progress, but it is slow. For example, Tesla is actively rolling out its own charging network at motorway service stations.

A: Perhaps Governments should take on the responsibility. After all, if getting people into electric vehicles is for the public good, local government should pay for charging points in areas where demand is too low to offer healthy profits. It should be a service, just like cycle paths or social care.

B: True. In addition, there is still a carbon cost to electric vehicles. Sourcing the minerals used for batteries, dismantling batteries which have deteriorated, and building and delivering vehicles to customers worldwide, all involve substantial CO2 emissions.

A: And then what do we do with the used batteries? If every new vehicle sold in 2040 is a plug-in vehicle, it could mean 2.5 million battery packs that will need to be reused or recycled.

B: Companies are working on solutions to that, although it's early days. Nissan have built an energy storage facility that re-uses batteries as power storage for domestic and commercial buildings.

A: Even so, static energy storage is not a one-shot solution for where the redundant electric vehicle batteries will go. I don't think it's a viable solution at all, David.

B: Why do you say that, Lisa?

A: Because there is a large quantity of cobalt in lithium-ion batteries. The most efficient and cost-effective way of recycling cobalt: which is a very expensive mineral: is to reuse it for the next generation of batteries for electric cars. A Belgian company has developed a sophisticated system for recovering cobalt and lithium. Metals are infinitely recyclable, so they can be reclaimed from used batteries and to produce new batteries that are as good as any other. But all these processes are difficult and expensive.

B: I suppose the good news is that ecology and economics are unanimous on one thing: don't bury them in the ground as waste.

Summary - Encouraging more people to use electric vehicles is at the heart of the UK's government's strategy to tackle climate change. Transport accounts for 23% of the UK's CO2 emissions - more than any other sector. Although up 70% on last year only about 1.1% of new cars sold this year are electric, and the market for used electric vehicles barely exists. Countries are targeting between 2030 and 2040 to ban the sales of all new petrol & diesel cars. Issues surround the choice of charging technology and infrastructure. Who will pay for the infrastructure? What will we do with the used batteries?

Questions - 1. Do you think electric vehicles will ever have the functionality of petrol or diesel vehicles?

2. What would make you buy an electric car?

3. Are electric cars the way forward, or is a high-quality public transport system a better solution?

4. Where will the power come from to produce all the electricity needed to power these cars?