

# Electric Vehicle Charging in Residential Communities

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# Energy Saving Trust Transport Team



Air quality



Efficient fleet management



Freight and NRMM



Efficient driving



Ultra-low emission vehicles

# EV101

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Past, present and future of electric vehicles

# Electric vehicle development



2011	2016	2018	2019	2020-2025?
109 miles	124-155 miles	150-200 miles	200-300 miles	>300 miles
24kWh	33kWh	40kWh	60kWh	>80kWh

# Benefits of electric vehicles



No tailpipe emissions



Cheaper running costs



Smooth, relaxing drive



More reliable



Refuelling at home



Used EVs are a bargain! (for now)



*Potentially* zero-carbon

# Charging infrastructure development



2011	2016	2018	2020-2025?
<3kW	50kW	150kW	350kW
12 hours	20-30 minutes	10-20 minutes	5-10 minutes



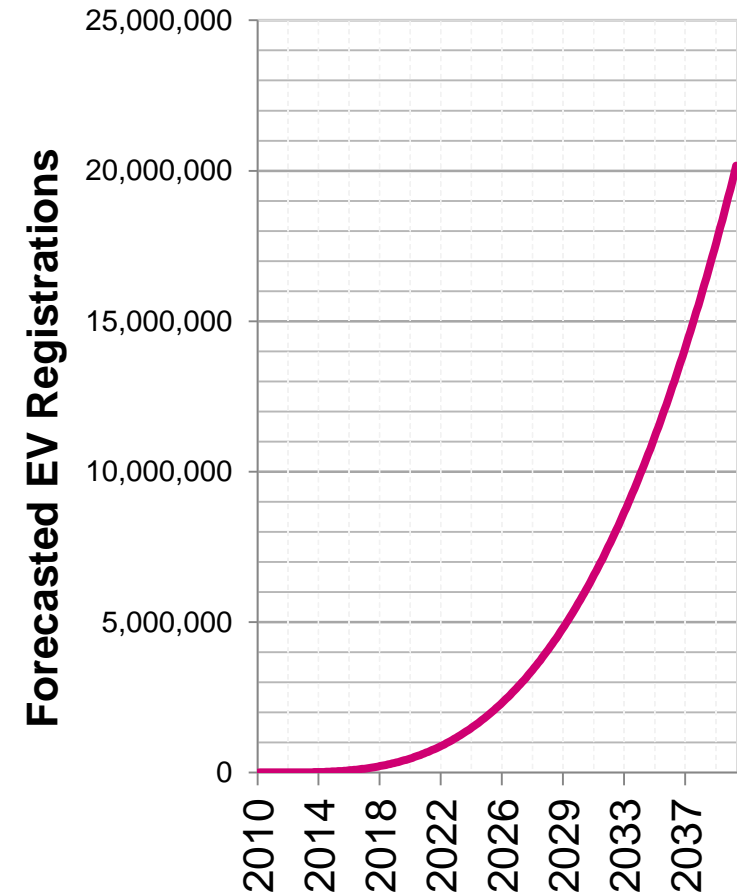
# Forecasting the transition?

BBC News navigation bar with categories: News, Sport, Weather, iPlayer, TV, Radio, More. Search bar and location set to London.

## New diesel and petrol vehicles to be banned from 2040 in UK

© 26 July 2017 | UK

Share icons for Facebook, Twitter, Messenger, Email, and a general Share button.





# Electric vehicles in the community

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How can electric vehicles contribute to local communities?

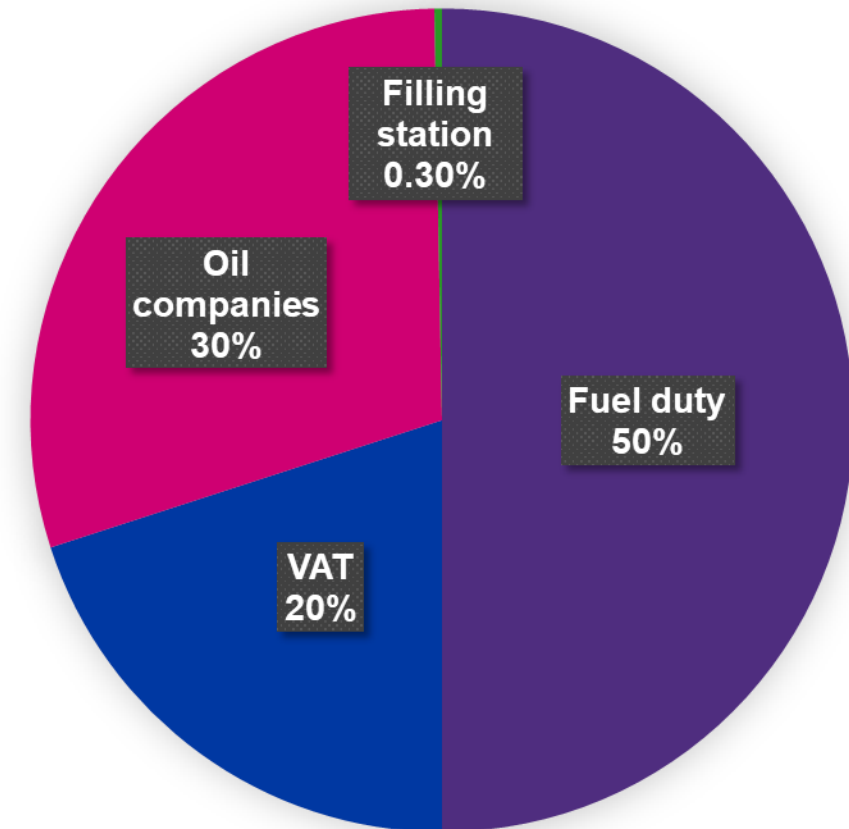
# The status quo

Q: When you buy petrol/diesel, how much of that money *directly* benefits the local economy and the communities within it?

A: Not much!

Electric vehicles open the possibilities to change that dynamic.

## Where does your fuel money go?



Source: [BBC](#) (adapted to current fuel price)

# The EV alternative

If the initial investment in charging infrastructure is led by communities...


- A greater proportion of revenue remains within the local economy
- Tariffs can be set at variable rates, preferential to residents
- Residents will have greater confidence in EVs
- EV drivers may visit to refuel, introducing new money into the local economy



# Why not leave it to the private sector?

Shell and BP have both acquired EV chargepoint providers - the first of many?

Let's look at what one motor fuel provider did when they started providing EV charging...



**Mr\_G**  
Well-Known Member

Messages: 3,474  
Likes Received: 2,465

maethorechannen said: ↑

Looking at zap-map, you would never have to search all that hard for an alternative.

And if the alternative is fossil fuel - now I wonder who sells that? 🤔

EV - 4 miles per kWh at 50p per kWh so price 12.5 p per mile  
ICE - 45 mpg at 124 p a litre so price 12.5 p per mile

Price does not threaten ICE fuel sales but has a greater profit. Win Win for the oil sorry I mean energy companies.

They had to stop public recharge becoming cheaper on electricity than petrol or diesel. BP paid on average £20K for each charger (Chargemaster sold for £130M with 6500 charge points.)

Mr\_G, Jun 29, 2018

#224

# Blue-sky thinking

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Where does the future lie for electric vehicles in the community?

# Case study: Dundee City Council



- Hub of rapid and fast chargepoints
- Solar PV canopies above the parking spaces
- Battery storage

Electricity generated by solar PV being used to rapid charge electric vehicles

When there are no electric vehicles to charge, electricity stored in batteries can be added to the grid, generating revenue and increasing the grid mix of renewables

Less strain on local electrical distribution network, as batteries can be trickle-charged

**Public owned:** Led by the local authority, with funding also provided by Scottish Government.

# Support available

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OLEV On-street Residential Charging Scheme



# Why is ORCS important?



- In many parts of the UK – especially in urban areas – off-street parking is not available to most residents.
- Potential EV owners living in these areas don't have access to home charging
- By installing on-street chargepoints in these locations, residents can enjoy the convenience and value of charging their plug-in vehicles at home.

# What is the purpose of the scheme?

Offer funding to local authorities towards the purchase and installation of on-street electric vehicle chargepoints for their residents

Provide convenient and cost-effective home charging to residents without access to off-street parking

Unlock demand for ULEVs where this was previously a barrier to purchase

# How much funding is available?

- £2 million funding made available for 2018/19 and further £2.5 million in 2019/20
  - Up to £7,500 per double header chargepoint
- Maximum of £100,000 funding per application
  - Applications can be for more than one chargepoint
  - Applications can be for more than one location
  - More than one application can be submitted
- Allocated on a first come, first serve basis

## Other UK Government incentives



Plug-in Car Grant



Plug-in Van Grant



Home Charge Scheme



Workplace Charging Scheme



On-Street Residential Charging Scheme

# Thank you for listening



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