

What's the fuss in 2018?

This has been a major year for the EV sector, with significant commitments and strategy emerging from Government, automotive manufacturers, EV charge point developers, the financial and corporate communities and those who run the electricity networks.

Major developments include:

- Road to Zero strategy published by Government.
- Automated and Electric Vehicles Act receives royal assent.
- Alternative Fuels and Infrastructure Directive, which impacts how charge point operators can take payments, comes into force.
- National Planning Policy Framework is updated which includes greater reference to EV infrastructure.
- Crucial organisations such as National Grid and the National Infrastructure Commission outline support for a rapid transition.
- More companies move into the 'smart' home charging space.
- Electricity networks and the energy regulator have launched consultations how to facilitate greater low-carbon, decentralised energy generation, energy storage, and EV charging in the coming decades.
- The Climate Group's EV100 campaign, launched September 2017, has now secured 20 commitments from large corporates to fully electrify their vehicle fleets and/or equip all their corporate sites with charging points, with more new commitments expected at the Global Climate Action Summit and Climate Week 2018.
- Major auto manufacturers, from BMW to Nissan, Ford, VW, JLR and beyond outline a commitment to rapidly increasing the number of electric cars and vans they offer.

Where are we going?

The Committee on Climate Change has outlined the need for 60% of new car and van sales to be electric by 2030, up from under 1% in 2018, in order to meet our Carbon Budgets. The National Infrastructure Commission has come out arguing that 100 per cent of new cars sold should be electric by 2030, earlier than the Government target, and National Grid has outlined their ability to adapt if such rapid change were to occur.

How does the UK compare to other countries?

Pure EVs (called Battery Electric Vehicles) make up less than 1% of new car sales in the UK, at 0.56%. The EU28 average for BEVs is 0.76%. Due to generous incentives Norway is the leader in BEV deployment, making up 26.22% of new sales. The Netherlands sits at 3.14%, France at 1.21% and Germany at 0.92% (data from EAFO).

The race is on to capture segments of the future supply chain for electric vehicles. The Government's Faraday Challenge (£246m) and Industrial Strategy outline support for the sector. The European Union is coordinating an 'airbus-style' Battery Alliance and California and China have introduced 'Zero Emission Vehicle Mandates,' compelling manufacturers to sell a minimum number of EVs per year.

Is this really happening?

Don't take our word for it - follow the money . . .

VW alone has secured \$48 billion in forward battery cell contracts to power its target of building three million electric vehicles annually by 2025 and marketing over 80 new electric Group models. BMW is planning to offer 12 all-electric car models and JLR announced that all new models from 2020 would be in some way electrified. EVs are one of several 'Strategic Emerging Industries' identified in China's most recent 5-year plan and they have set a production and sales target of five million NEVs (New Energy Vehicles) by 2025.

Global lithium-ion battery manufacturing capacity is set to more than double by 2022 according to BNEF, and the European Commission is seeking to attract between 'ten and twenty' battery manufacturing 'gigafactories' by 2025, worth around EUR 20bn investment.



Top issues for Parliamentarians to be aware of in the next year

- **Driving deployment of EVs is key.**

Greater deployment means more rapid development of charging infrastructure and a greater likelihood that EVs will be manufactured in the UK. The Government could consider building on its existing demand-stimulating set of policies.

- **Benefit-in Kind rates are slowing EV deployment by creating a disincentive in the company car market.**

While much policy is supportive of EVs, the tax on the sale of electric company cars is going in the wrong direction, and will reach 16% in 2019, while it is 0% in Ireland and 4% in the Netherlands. In a recent poll for FleetNews Magazine, 73.9% of respondents said that they have been put off selecting a hybrid or pure EV before 2020 because of the lower rates not being introduced until 2020. This is an issue Treasury can tackle in the forthcoming Autumn Budget, by introducing the 2% rate from April 2020.

- **Discussions are underway around the future of the networks.**

The regulator and electricity networks need to ensure that the way they structure how companies and individuals connect to and use the grid incorporates the increasing affordability of technologies such as solar and storage and new demands such as EV charging.

- **Building regulations need to change.**

New homes may need upgraded efficiency and wiring regulations (three phase) and the Government is looking to ensure new homes have EV charging capabilities. Self-generation of energy, say through solar PV, would also help address EV-related grid strain (i.e. when multiple homes charge their vehicle at the same time) while reducing energy costs.

- **Developing charging hubs should be more straightforward.**

Numerous companies have emerged who are actively developing EV charging hubs but are encountering delays in securing wayleaves for power cables. The EV charging sector should be granted 'code rights' akin to the telecoms industry, and recognised as a sector of strategic national importance.

- **Installing charging in existing apartment blocks remains a challenge.**

This is a crucial sector for charging. Potential suggestions include Government revising the legal arrangement between landlords and tenants to create a 'right to plug' for tenants. There are other difficult charging areas as well - finding means of incentivising deployment in rural areas might also be considered.

- **Charging companies should better cooperate.**

The UK stands alone in its lack of network 'interoperability.' Over a dozen companies own and operate charging infrastructure but to use it one often needs to be a member. As a driver this could mean multiple cards to access chargepoints, multiple apps, and sometimes multiple monthly subscription accounts. Other countries have greater 'roaming' between networks.

- **Chargepoints need to be installed well, and they need to work.**

Some charge infrastructure being installed, for example in workplaces and in homes, is being installed poorly or is faulty (sometimes despite being on the Government's authorised equipment and supplier list). An industry installation and equipment initiative is in place to mitigate this which the Government should support.

- **Getting Local Authorities on board with encouraging and installing EV infrastructure is key.** Local Authorities (LAs), already under significant budgetary strain, will have a leading role to play in the development of on-street and destination charging. Central Government funding is available but greater awareness in some LAs is needed.

Key takeaways from the Government's Road to Zero strategy

- **The Government has a target of 50%, and as many as 70%, of new car sales and up to 40% of new van sales being ultra-low emission by 2030.**
- **By 2040 Government expects "the majority of new cars and vans sold to be 100% zero emission and all new cars and vans to have significant zero emission capability".**

Government will drive EV uptake by continuing to fund the [Plug in Car and Van Grants](#), which reduce the sticker price of a new EV.

There has also been a commitment to [25% of the central Government car fleet being ultra-low emission by 2022](#) and that all new car purchases are ultra-low emission by default. 100% of the central Government car fleet will be ultra-low emission by 2030.

Other EV charging policies including consulting on ensuring all appropriate street lighting has charging facilities incorporated, consulting on expanding the permitted development right for off-street chargers (England), and investigating where direct government intervention in EV chargepoint deployment may be needed in cases of market failure.

Discussions are on-going in relation to how 'smart charging' might be mandated, including how chargepoints communicate with smart meters, EVs, and the grid.

On home charging, the [EV homecharge scheme](#) grant is to be held at current levels (£500) and Government will investigate how to support those with communal parking facilities or who don't own their own homes.

New homes may also come '100% EV Ready', as Government stated "*all new homes, where appropriate, should have a chargepoint available. We plan to consult as soon as possible on introducing a requirement for chargepoint infrastructure for new dwellings in England where appropriate*".

Relating to on-street charging, Government will fund the [Energy Saving Trust](#) to assist more local authorities, share more knowledge and expertise and directly support the development of more EV infrastructure delivery plans and applications to the on-street scheme.

There is also a commitment to launching a [second round of funding \(£6m\)](#) for local authorities to roll out dedicated taxi charging infrastructure.

For workplace charging, DfT will increase the levels of the [Workplace Charging Scheme \(WCS\)](#) - the grant could see over 8,000 sockets installed before the end of March 2019.

Additional policies to support Heavy Goods Vehicles, taxis, motorcycles and vans, encouraging greater manufacturing of the EV supply chain in the UK, in addition to funding a consumer communications campaign to 2020.

On grid-related issues: The Government is coordinating an [EV Energy Taskforce](#) to discuss grid-related barriers to charging infrastructure deployment with key stakeholders. It is also looking at how grid and charging are a barrier to [electric last mile deliveries](#).

Automated and Electric Vehicles Act

The Act, which received Royal Assent in July 2018, has opened discussions around how to implement smart charging in the UK and has given DfT powers to mandate chargers on some motorway service stations. Additionally it gives Government powers to take additional data on chargepoints that it can make public, and to encourage the standardisation of payments.

Updated National Planning Policy Framework

An updated National Planning Policy Framework (for England) has been published, following consultation earlier this year. The updated framework includes a few key additions for the EV charging sector, including in relation to setting local parking standards and new development applications.

Throughout the document the principal of 'sustainable development' is emphasised, which is an improvement from the 2012 version.

On the horizon

- The Chancellor's Autumn Statement will be an opportunity to amend out of step company car tax (Benefit in Kind) rates.
- The Alternative Fuels Infrastructure Directive (AFID) comes into full force in November 2018. When it does, all public charging infrastructure will need to be 'ad hoc' accessible, meaning that it can take a greater range of payments.
- The EU Energy Performance in Buildings Directive (EPBD) has passed through the European Commission and as of July 2018 Member States have 20 months to pass their own legislation. The EPBD crucially supports the requirement for new commercial premises to have all the cabling and trenching to deploy chargepoints in the future, and by 2025 for new premises to have minimum numbers of chargepoints installed.
- A hard Brexit could impact EV exports. The default tariff for EV exports under World Trade Organisation (WTO) rules is 10%, meaning if the UK left the EU without a deal a 10% tariff on exports may apply - impacting present and future competitiveness.



Case Study: Supporting the taxi trade's transition to cleaner vehicles

London's taxi drivers are at the fore of transitioning the city's transport network to cleaner, greener vehicles. Since January 2018, TfL has required all taxis presented for licensing for the first time to be zero emissions capable (ZEC). There are already over 300 new electric taxis on London's streets and the Mayor of London's ambition is to have a fleet of 9,000 by 2020 and for all London taxis to be fully ZEC by 2033.

The new TX electric taxi is manufactured by the London Electric Vehicle Company with a stated range of up to 400 miles, including up to 80 miles pure electric (real world driving indicates around 50 miles pure electric).



Why do taxis need exclusive rapid charging points?

Working vehicles such as taxis have very different driving patterns than the average car in London, and therefore have very different charging needs. Cabbies can cover over 100 miles in one working day, and need to be able to charge up their vehicle quickly in order to get back to work.

How many rapid charging points are planned?

The Mayor of London has installed 100 rapid charging points on TfL's road network, 44 of which are in and around central London. However many more taxi-only charging points are needed to support the drivers who have bought the new cab and encourage others to make the switch. The Mayor has committed to grow this network to 150 points by the end of 2018 and 300 by 2020; and it's crucial that these targets are reached and exceeded.

Currently, only 5% of London's roads are under the Mayor's control with the other 95% under the control of the local boroughs. Despite this, the majority of the existing rapid charging points are situated on TfL-owned roads.

TfL and the London boroughs must work together to accelerate the installation of accessible rapid charging points across the city. This is essential in encouraging taxi drivers and others, to switch to cleaner vehicles as soon as possible.

With thanks to the APPG on Taxis for the provision of this case study.

References

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Have you been put off selecting a hybrid or pure EV with lower BIK rates for plug-in cars not being introduced until 2020? FleetNews Polls. <https://www.fleetnews.co.uk/polls/?page=15>

About the APPG on Electric and Automated Vehicles

The APPG on Electric and Automated Vehicles, Chaired by the Rt Hon Dame Cheryl Gillan MP (Con), was established in November 2017, aiming to engage parliamentarians interested in future low-carbon transport technologies concentrating mainly on electric vehicles, automated vehicles, and low carbon fuels together with infrastructure requirements and safety issues.

This dedicated forum brings together manufacturers, businesses, media, NGOs, and experts to share information, promote awareness, and debate future policy options.

About the Renewable Energy Association (REA)

The Renewable Energy Association is the UK's largest not-for-profit renewable energy and clean technology (including energy storage and electric vehicles) trade association with around 550 members ranging from major multinationals through to sole traders.

The REA's EV sector group is comprised of around 50 member companies delivering the critical infrastructure needed to deliver the transition to a zero emission car and van future. The REA serves as secretariat to the All-Party Parliamentary Group on Electric and Automated Vehicles.

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The All-Party Parliamentary Group on
Electric and
Automated Vehicles

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