

# Making progress

**James McGeachie**, Technical and Programme Director and **Neil Wallis**, Head of Communications at **Zemo Partnership** on achieving net zero

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This year's LCV Event comes towards the end of a year that looks very well set to be a defining one for UK road transport. The Government's Ten Point Plan signalled a clear direction of travel and has been followed up in much more detail by the weighty transport decarbonisation plan and – most recently – by a new hydrogen strategy. Now we know a lot more about what future mobility is going to look like.

It's an exciting time to be working in transport and, no doubt, many of the exhibits at this year's show will reflect this – particularly as, due to Covid and the lockdowns, it's been two years since we've seen many of the most innovative and new technologies 'in the flesh'.

Zemo Partnership has been changing too. We started the year as Low Carbon Vehicle Partnership (LowCVP) but since we've been following a trajectory towards net zero (effectively zero emissions in road transport) it's been apparent that 'low' is no longer ambitious enough.

To strengthen the focus on 'zero' and heightened ambition, we announced a new 'acceleration programme' at our (virtual) annual conference in July this year. We've played a strong role to date in

the vehicles and fuels agenda but, increasingly, we're engaged in the broader energy sector, working to integrate the benefits of transport electrification with (increasingly renewable) power generation; seeking to tackle the challenges and maximise the benefits of the exciting new opportunities this brings.

We've enjoyed growing engagement and participation from our 220+ member organisations who are keen to drive – and ride – the zero emissions wave.

It's pretty obvious that the tectonic plates are shifting and that electrification (in its many forms) is set to be a major part of the answer for road transport. Battery electric car sales have been topping 10% of the market in recent months and, combined with PHEVs, now represent 15% of all new car sales. Significantly, they are now a measurable proportion of the energy for transport

Electric van sales are a little behind cars but there's been a rapid increase in the availability of full battery and plug-in models. At least twelve manufacturers are now supplying small, medium and/or large vans with plugs and the last year has seen major investments and launches from Vauxhall, Peugeot, Citroen and Mercedes, amongst others. Range capability has been increasing notably; seven of the van models most recently launched have a range capability over 150 miles (and four over 200 miles). A quick recent survey by Zemo Partnership revealed that seven of the top ten best-selling vans in the UK are now available in plug-in form.

Plug-in and zero emission models already dominate sales of buses and



taxis. Electric motorcycle orders, too, are also taking off; more than a third of mopeds sold so far this year have been electric.

The bus sector has been in the vanguard of the zero emissions shift. Earlier this year, the Government announced that up to £120 million is to be made available through the Zero Emission Buses Regional Area (ZEBRA) scheme to encourage clean bus uptake and deliver a good proportion of the Government's wider commitment to introduce 4,000 zero-emission buses.

One motor company after another has announced a deadline for their transition to selling fully electric and/or fossil free cars and vans. Vauxhall (and sister firm Opel) are one of the latest in a long list of motor companies to announce a full transition to building electric-only vehicles (in their case, from 2028).

The major – and hugely welcome – investment announcements from Nissan of an 'Electric Vehicle Hub' including a new battery 'gigafactory' in the North East and Stellantis (Vauxhall's owner) in electric van production in Ellesmere Port add to the strong feeling that things are changing in the right direction, and fast.

With this 'plethora of plugs' emerging into the market, our work



with the Energy Systems Catapult and the EVET (Electric Vehicle Energy Taskforce) is becoming a major part of our programme with a clear focus on ensuring that the energy system is ready and able to seamlessly power the EV fleet as it rapidly grows.

While plug-in car and van markets are clearly taking off, there's a great deal more to do to bring the larger commercial vehicle sector onto a similar trajectory. Only a tiny proportion of HGVs are currently classified as ultra-low emission. Battery electric HGVs are emerging on to the market but, based on current battery technology, a 44tonne HGV with a 400mile range needs a battery of around 1MWh which is both very expensive and heavy.

Nevertheless, technical progress is rapidly cutting both costs and weight and larger battery-powered commercial vehicles are being brought to market by a number of incumbent manufacturers including Scania, Volvo as well as new players like Tesla, Rivian, Arrival and Volta. Meanwhile, Hyundai and Nikola – amongst others – have been

developing zero emission trucks using fuel cell technology. Catenary systems, using overhead wires, for delivering electricity to trucks while en route have been mooted and are under trials in Germany, Sweden and the US.

The route to zero emission HGVs is not yet fully clear but progress is being made in a number of areas. The £10m Zero Emission Road Freight Trials (ZERFT), supported by Zemo, involve advanced feasibility studies into several options for decarbonising freight, focusing on electric road systems, hydrogen fuel cell options and supply chain technology innovations. Of course, the scale of energy delivery to the vehicle is magnified for HGVs so our energy systems work is also embracing this and - through our collaboration with MCIA - the powered light vehicle (PLV) sector as well, to ensure no one is left behind on the road to zero.

Zemo Partnership was (and remains) a supporter and early advocate of renewable fuels that have stringent accreditation systems in place to ensure their life-cycle and wider sustainability

impacts. While electrification is clearly going to play a major role in delivering zero emissions transport, much the greater part of the vehicle fleet is still using fossil fuels and will still do so for well over a decade to come.

The recent introduction of E10 (up to 10% ethanol mix in petrol; up from 5% max) will deliver a greater total CO<sub>2</sub> emissions reduction in the short term than the electric vehicles bought to date. Low carbon, renewable fuels have an important role to play but we mustn't let their introduction deflect us from the focus on the drive for fully zero emission transport.

Zemo Partnership has been working to address the barriers to uptake of accredited renewable fuels. The Renewable Fuels Assurance Scheme (RFAS), designed and managed by Zemo Partnership, is an initiative to verify claims made by companies supplying renewable fuels to heavy-duty vehicle and equipment operators regarding their product's GHG emission savings and provenance of raw material feedstocks. The scheme covers biodiesel, hydrotreated vegetable oil, biomethane, renewable hydrogen, plus various development fuels and blends of renewable fuels.

We've come a long way in a short space of time but we're still only in the early stages of the transition we need to make to achieve the 2040 target of zero emission for all new road vehicles.

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