

# TOWARDS NET ZERO

**Brian Robinson, Commercial Vehicle Working Group Manager and Neil Wallis, Head of Communications at the Low Carbon Vehicle Partnership outline the latest trends and technologies for decarbonising the freight sector**

**T**he 2020s are surely set to go down in automotive industrial history as the decade in which the world changed. Since the mid-19th century the internal combustion engine has dominated the transport world but by the end of this decade, its dominance will surely have well and truly ended.

The Government will shortly be announcing plans to phase out the sale of combustion engines in cars sometime in the 2030s. (By the time of publication, this date may have been announced.) Vans will follow shortly after and – if we are to stand a chance of hitting the mandated 2050 target for Net Zero – larger commercial vehicles will likely have to follow fairly closely behind.

The Government's long-heralded Transport Decarbonisation Plan is expected to be published by the end of this year and will set out in detail how the Government expects the Net

Zero transition to shape up sector by sector. With focus next year moving to the delayed climate change summit – CoP26 – in Glasgow, the Government wants to set credible, and potentially world-leading, levels of ambition for transport decarbonisation.

This is not to say that freight sector decarbonisation will be straightforward; indeed, the internal combustion engine will surely have a role for some decades (at least two) to come. Where it continues to exist, there will be growing incentives and pressure to ensure the fuel combusted by trucks and vans comes from sustainable, renewable sources.

LowCVP is currently looking into the potential role alongside electrification for high-blend biofuels, including biomethane, in decarbonising the road freight sector. The Partnership's Renewable Fuels Guide, published earlier this year,



**LowCVP** | Connect  
Low Carbon Vehicle Partnership | Collaborate  
Influence





“LowCVP is currently looking into the potential role alongside electrification for high-blend biofuels, including biomethane, in decarbonising the road freight sector”

provides fleet operators with an overview of the range of low carbon and sustainable fuels now available in the UK.

Hydrogen has been increasingly prominent in recent discussions about future fuels for freight. It can be generated through electrolysis, using an electric current (ideally from renewable or nuclear energy) to split water into hydrogen and oxygen. It can also be made by steam reformation of methane, with the carbon dioxide generated being captured and stored. There are still questions in terms of the energy efficiency of the overall system when using hydrogen as a transport fuel and in terms of the costs and logistical practicalities of various stages in the process. (LowCVP has recently set up a new working group to investigate the role of hydrogen in a Net Zero road transport system.)

Greenhouse gas emissions from transport have fallen more slowly than those from other sectors – they are only 4.6 per cent below 1990 levels – and the sector is now responsible for 34 per cent of emissions (2019).

Over half of domestic transport emissions come from cars. HGVs and vans each account for a little over 15 per cent, while buses and rail emit less than 5 per cent each. (International aviation and shipping are accounted for separately in government statistics.)

There are clear signs of progress in commercial vehicle electrification with demo or production vehicles announced by Volvo, Tesla, BYD, Scania, Volta Trucks, MAN and others. Arrival, a UK start-up small electric truck/van maker is one of only a handful of British companies to achieve ‘unicorn’ status (a start-up achieving a market valuation of over \$1bn) despite still being mainly

confined to demonstration status, such is the level of interest and anticipation for this market.

Economies of battery innovation and production at scale are expected to impact on the prospect for truck electrification a little further down the line.

LowCVP is currently working to identify the ‘sweet spots’ in terms of commercial fleet electrification and will be finalising a report on depot-based fleet electrification and case studies as a part of this year’s work programme.

On the demand side of commercial fleet electrification, the Plug-in Van and Truck Grant Schemes are important policy mechanisms to encourage electric vehicle uptake. LowCVP is working with the Office for Low Emission Vehicles to update and enhance those schemes.

More broadly – and focusing on the near term – the Partnership is currently supporting the freight industry’s commitment to reduce emissions from HGVs by 15 per cent by 2025. DfT’s Freight Emissions Reduction Group (FERG, of which LowCVP is a member, is working with both the major haulage trade bodies – Logistics UK (formerly FTA) and RHA – to support and monitor the commitment, as well as disseminating best practice through case study examples for SMEs.

For some operators and in some circumstances, of course, vehicle replacement is not a short-term option. In situations where operators need access to areas where air pollution is a problem – particularly where Clean Air Zone (CAZ) regulations may soon come into force – retrofit solutions can meet a short or medium-term need. The Commercial Vehicle Retrofit Accreditation Scheme (CVRAS) developed by LowCVP

in collaboration with the Energy Saving Trust addresses the air pollutant emissions from buses, coaches, heavy goods vehicles, mini-buses, taxis and vans.

LowCVP is in the final stages of preparing outputs of the Low Emission Freight and Logistics Trial (LEFT) which involved a wide selection of alternative technologies being assessed both in-service and through a dedicated, laboratory-based emissions testing programme, under a £20m government programme to cut carbon emissions from road freight and improve air quality.

LEFT involved trials of methane, hydrogen-diesel, battery and range-extended electric vehicles, aerodynamic and lightweight trailers and trailers with a Kinetic Energy Recovery System (KERS).

The trials have grouped technologies into three categories: Revolution, Transition and Evolution. Revolution technologies for vans and trucks include battery electric vehicles; transition technologies include range-extended electric HGVs, CNG/LNG or dual-fuel vehicles; evolution technologies include various combinations of aerodynamic and/or lightweight – and KERS – trailers.

The full results of the Low Emission Freight Trials will be published shortly.

The LowCVP is a membership organisation representing the widest range of stakeholders – from government, through industry and fleet operators to NGOs – dedicated to accelerating the transition to Net Zero in road transport.

**To find out more information and for details about joining the Low Carbon Vehicle Partnership, visit [www.lowcvp.org.uk](http://www.lowcvp.org.uk)**