

Road freight

The Gas Vehicle Network (GVN) is an established trade body which represents a diverse range of businesses involved in the production of gas-derived fuels and gas-powered vehicles, particularly heavy goods vehicles. Given that air pollution, and related preventable deaths, are at unacceptably high levels, the work of our members is vital in developing the next generation of cleaner transport fuels and vehicles.

The GV Network is one of the seven divisions of the Energy and Utilities Alliance (EUA), a company limited by guarantee and registered in England. Company number: 10461234, VAT number: 254 3805 07, registered address: Camden House, 201 Warwick Road, Kenilworth, Warwickshire, CV8 1TH.

We will be focusing our response on the decarbonisation of road freight and the implications delivering this commitment may have on infrastructure and the workforce.

Decarbonising road freight will be one of the most important aspects of reaching net zero within the transport sector. However, in many ways this is an unseen, underappreciated challenge; large amounts of Government resource, civil servants' time and media attention are focused on the 'flashier' aspects of transport decarbonisation, such as electric cars and active travel. Meanwhile, the vital issue of the disproportionate emissions derived from heavy goods vehicles is at best overlooked and at worst met with overly simplistic, short-sighted solutions from the Government.

Unfortunately, it is the latter which was presented in the recently released Transport Decarbonisation Plan. Whilst GVN very much welcomed a clear 2040 phase-out date for diesel HGVs as this gives the freight industry, vehicle manufacturers, fuel suppliers and others much-needed certainty which has been sorely lacking up until this point. Having said that, the broad brush assertion that from 2040, HGVs must be "zero emissions" does not, in fact, reflect the realities of the current and future freight industry and vehicle market. "Zero emission" does not equate to the terms 'net zero' or 'carbon neutral' as it excludes vehicles which may fulfil the latter two terms but do have small amounts of tailpipe emissions. The proposal, evidently geared towards pre-COP26 headline grabbing, could be self-defeating as it effectively rules out many transport fuels which are best placed to deliver zero carbon HGVs.

Many of GVN's members are suppliers of liquefied natural gas (LNG) and compressed natural gas (CNG), both of which can be produced from organic wastes in order to offer significant emissions savings today. Indeed, CO₂ savings of 85% compared with diesel are already being delivered whilst savings of 100%, or more, are becoming possible due to increased use of manure to produce biomethane. In addition to this, it is clear that the freight industry's appetite for low, or zero, carbon biomethane is growing rapidly. Statistics we have gathered from our members' operations show 93% of gaseous fuel dispensed in 2020 was waste-derived biomethane, up from 80% in 2019. From 2019 to 2020, the total quantity of gaseous fuels

increased by 78%, continuing a trend of rapid growth in the market. This growth is being delivered by a nationwide network of biomethane refuelling stations, largely developed independent of Government oversight and subsidies.

Climate scientists, the Climate Change Committee and the Department for Transport have placed much emphasis on *early* emissions savings, which can have a significant cumulative impact. The latest announcement of “zero emission” HGVs, whilst providing certainty, could be seen in the eyes of many to be kicking the can down the road as far as 2040, nearly twenty years’ time. On the other hand, as we already stated, manure-derived biomethane can decarbonise HGV fleets today and could even provide negative emissions when production is combined with carbon capture and storage; this is thanks to methane from manure being put to good use in a controlled way, as opposed to being allowed to escape into the atmosphere. Frustratingly, the Department’s fixation on zero tailpipe emissions means that these emissions savings are being cast aside as the Government takes a major gamble on as-of-yet undeveloped electrified alternatives.

The Department’s current proposal disregards a fuel’s full life cycle emissions. Consequently, the “zero emission” definition fails to account for emissions incurred from the production, transportation, and utilisation of these fuels. An HGV fuelled by ‘grey’ hydrogen or fossil fuel-generated electricity would qualify as a zero emission vehicle, despite their direct contribution to greenhouse gas emissions. Instead of decarbonising transport, this policy shifts its emissions to the broader energy sector. To truly decarbonise HGVs and transport, the Department should instead focus on the carbon intensity of fuel used (gCO₂e/MJ). The fuel-type alone does not determine its sustainability; the full well-to-wheel (WTW) emissions must be considered. As demonstrated by California’s Low Carbon Fuels Standard, there are multiple different fuels capable of significantly decarbonising transport. Biomethane is recognised for its ability to deliver carbon negative energy, thereby reversing net transport emissions.

The Government should remain technology neutral. By focusing only on zero tailpipe emissions, the Department’s policy proposal acts to limit future HGV technologies to electricity or hydrogen only – regardless of these fuels’ carbon intensity. Decarbonisation through this pathway is not assured. A universal ban on any tailpipe emissions goes beyond what is necessary to mitigate the impacts of poor air quality, and actually hinders the policy’s broader ambition. Very low levels of nitrous oxide and particulate matter pose a negligible risk to public health and the environment. Policy should instead target *safe* levels of emission related to air quality, within the overall objective of net zero greenhouse gas emissions, allowing all technologies the opportunity to improve their operations and reach this obtainable goal. This way, both air quality and decarbonisation targets can be met. For example, the latest models of gas-fuelled HGV have achieved a 99% reduction to nitrous oxide and particulate matter emissions, compared to an equivalent Euro V diesel truck. Technological improvements have all but negated these harmful emissions and their risk to public health. Despite these emissions being close to zero, the overly strict definition of “zero emission” vehicle would disqualify them as a future-proof technology.

Another concern shared by our members is that if a very limited range of technologies are available post-2040, a cliff edge could be created which would be problematic for the freight industry. Many companies and fleet operators could opt to put off switching from petrol and diesel as late as possible, even to the point of purposefully renewing their fleet towards the end of the 2030s. This could be a very negative unintended consequence of the proposals as they stand which would clearly hamper our ability to meet our next few carbon budgets and the interim target of a 78% reduction in greenhouse gas emissions by 2030.

Conversely, supporting the continued shift of HGVs from diesel to biomethane would help to deliver a gradual reduction in emissions from the sector, in line with desired economy-wide progress. The Transport Decarbonisation Plan states that the maintenance of the Fuel Duty differential until 2032 is designed “to encourage the use of biomethane and other gaseous fuels that create carbon savings compared to fossil fuels”. However, this objective could be undermined by the proposal to effectively relegate those fuels to the status of 18-year bridging fuels.

When it comes to the battery electric HGVs which the Government is taking a gamble on, the freight industry would face significant hurdles when it comes to recharging. For example, the consultation released alongside the Transport Decarbonisation Plan appeared to suggest that recharging could take place during the rest breaks drivers are required to take. This assertion ignores the fact that rests are often not taken at service stations where high-powered recharging infrastructure would likely be sited. Rather, drivers regularly stop off for rest breaks at designated rest stops and lay-bys which are often in remote locations where it would be uneconomical to install chargers capable of rapidly recharging an HGV; for reference, an HGV with 700 kWh of capacity would require a connection of at least 1 MWh to enable a 45-minute charge. Rests may also be taken at a driver’s destination whilst the HGV is being unloaded; in this scenario, it is difficult to see the destination organisation having sufficient infrastructure and being willing to allow a large HGV to recharge at their cost. In addition to this, the assumption that an HGV could be charged sufficiently during a rest break relies on a driver taking a 45-minute rest in one go; drivers will often split the 45 minutes over more than one rest period which would make rapid charging all the more logistically and technically difficult.

The provision of charging infrastructure in one location to serve large fleets, a key requirement for the freight industry, could also be problematic. Many depots and distribution centres do not currently have sufficient supply to meet the needs of a fleet of BEV HGVs, necessitating huge upgrades of substations in many areas. Distribution network operators will have to carry out these upgrades but the facility owners will ultimately have to pay for the work because legislation limits the ability of DNOs to recover the cost of investment in the grid. Where depots are leased rather than owned, freeholders may be reluctant to allow such an upgrade to take place as it could lead to a substantial increase in the site’s daily standing charge, which could cause them difficulty in finding a new leaseholder after the current tenant vacates the site.

We believe that none of these workforce and premises-related challenges have been seriously considered by the Department in their outcome-focused policy of “zero emission” HGVs. Another key consideration for the freight industry would be the market penetration that as-of-yet undeveloped electric HGVs are likely to achieve by 2040. Early emissions savings will be important, as will displacing as many diesel HGVs as possible by 2040. In the car market, we currently see that around 10% of sales are electric but BEVs account for nowhere near 10% of the cars on road. This shows that there could be a huge number of polluting HGVs on the road beyond 2040, and even 2050, if current proposals go ahead and stifle the growth of the biomethane market.

A separate, but nevertheless relevant, issue for the freight industry is whether enough manufacturers will invest in production of electric HGVs specifically for the relatively small right-hand drive market in time for the 2040 proposals. A lot will need to happen for such vehicles, and their associated infrastructure, to become commercially viable and mainstream within just over 18 years. The Transport Decarbonisation Plan does not appear to offer an answer to this issue, nor to give a clear back-up plan should the expected investment in zero carbon HGV technologies, other than biomethane, not materialise.

We hope that the Committee will take these considerations around the decarbonisation of the freight industry into account as part of the inquiry.