# Welsh Affairs Committee: How can the capacity of the Grid be ensured to meet future energy projects and net-zero targets in Wales?

## March 2022

### Summary of Logistics UK View

- Road transport is fundamental to UK freight and logistics and to support the transition to Net Zero, it is vital that electricity supply can meet the demand required to move away from the use of conventional fossil fuels.
- Power supply requirements for heavier vehicles must be incorporated into energy supply expansion plans.
- Increases in energy infrastructure provision along the strategic road network should be future-proofed for the future needs of commercial road vehicles, including HGVs, to avoid further costs and disruption.
- A fair and equitable funding arrangement must be agreed if fleet depots require additional energy supply.
- The power required for large vans and HGVs will be much greater than for cars and access to that power will be different, including geographical location and the physical space required to accommodate the vehicles.
- To support the decarbonisation of commercial vehicles, plans to increase public chargepoints must not exclude commercial vehicle usage.
- The UK Government should agree a public spending programme to energy capacity, alongside changes to the regulatory framework that distribution network operators work within to provide a clear structure of who is responsible for funding upgrades to increase electricity supply.

**About Logistics UK**

Logistics UK is one of Britain's largest business groups and the only one providing a voice for the entirety of the UK's logistics sector. Our role, on behalf of over 19,000 members, is to enhance the safety, efficiency and sustainability of freight movement throughout the supply chain, across all transport modes. Logistics UK members operate over 200,000 goods vehicles - almost half the UK fleet - and some one million liveried vans. In addition, they consign over 90 per cent of the freight moved by rail and over 70 per cent of sea and air freight.

Logistics UK's mission is to make logistics safer, cleaner and more efficient. The logistics sector recognises the urgent need to tackle transport emissions, playing its role through investing in new technologies, lower carbon fuels and new business practices. To achieve 'Net Zero', we need the right supportive policy framework to help drive this transition. In support of this ambition, Logistics UK has launched its 'Route to Net Zero' campaign[1], setting out the key priorities for achieving Net Zero greenhouse gas (GHG) emissions across logistics operations as quickly as possible.

**Response to inquiry**

- What are the current capacity issues facing the National Grid?
- How are the constraints on Wales' grid likely to be exacerbated as demand for renewable energy surges?
- How can Wales unlock the grid and ensure that it is ready for future demand?
- What can be done to incentivise investment in grid flexibility, in particular vehicle to grid technology and 'smart' charging?
- What should be done to ensure that the grid, particularly in rural areas, can cope with the extra demand that will be generated from the transition to electric vehicles?
- What level of anticipatory investment in grid capacity is required by the UK Government in order to ensure that Wales can deliver its decarbonisation roadmap?
- How can the UK Government, the Welsh Government and Ofgem work together to improve grid capacity?

In responding to the Welsh Affairs Select Committee grid capacity inquiry, Logistics UK is considering the questions holistically and from the perspective of the logistics sector.

[1] https://logistics.org.uk/environment/netzero

**Current grid network capacity**

National Grid's electricity transmission system in Wales shown below indicates that there are large parts of the country not covered by the system, especially in mid-Wales and the west coastal areas: https://www.nationalgrid.com/electricity-transmission/network-and-infrastructure/network-route-maps

Energy supply across Wales is severely constrained according to the Institute for Welsh Affairs[2]. Evidence submitted by National Grid[3] to the Welsh Affairs Committee in February 2021, stated that 'there is currently no National Grid electricity transmission infrastructure within Mid-Wales'. The Mid Wales Connections project has only recently obtained approval, experiencing several years of delays[4].

The two Distribution Network Operators in Wales, SP Energy networks[5] and Western Power Distribution network capacity maps show both networks at, or near, capacity. In order to support the transition to Net Zero, it is vital that electricity supply can meet the demand required to move away from the use of conventional fossil fuels in transport to deliver the timetables set by the Welsh and UK Governments.

The UK government should agree a public spending programme to augment energy capacity, alongside changes to the regulatory framework that distribution network operators work within, to provide a clear structure of who is responsible for funding upgrades to increase electricity supply.

**Scale of commercial vehicle electrification**

A key part of the transition will come from the role played by commercial vehicle fleets, with road transport fundamental to UK freight and logistics. Across the country, food and drink, medical supplies, construction materials and everything in between is moved by HGVs and vans. Even goods moved by air, rail and water will almost always still need to be transferred by a road vehicle at some point.

At the end of September 2021, there were just over 2.4 million Light Goods Vehicles (LGVs) registered in Wales. According to the DfT Van Survey 2019[6], only 34% of vans in Wales were new vehicles (second lowest proportion in GB), and 38% were over 10 years old (second highest proportion in GB). The Principality also has the lowest proportion of Ultra Low Emission Vehicle (ULEVs) vans at 0.1%.

Whilst cars and vans are at the forefront of vehicle electrification, Heavy Goods Vehicles (HGVs) will also be decarbonising and while the commercially viable technology solution is not yet known, electrification will certainly play a significant part. Therefore, it is very important that the power supply requirements for heavier vehicles are incorporated into energy supply expansion plans.

[2] https://www.iwa.wales/agenda/2018/10/energy-infrastructure/
[3] https://committees.parliament.uk/writtenevidence/22830/pdf/
[4] http://www.llanbrynmair-wind-farm.co.uk/news/latest-news/december-2021-success-for-welsh-renewable-energy-ambitions-as-uk-government-approves-new-wind-farm/
[5] https://www.spenergynetworks.co.uk/pages/sp_manweb_heat_maps.aspx
[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/978087/van-statistics-2019-to-2020.pdf

Substantial grid reinforcement and power upgrades will be needed over the coming decades to support an increased reliance on electricity to power new commercial vehicles. It is important that low regret options are acted upon now in order to avoid future delays. For example, as energy infrastructure is increased along the strategic road network to support charging for electric cars and vans, this should include possible future requirements for other road vehicles, including HGVs. This will avoid further cost and disruption in the future.

The end date for the sale of new petrol and diesel cars and vans has already been set for 2030, with plug-in hybrid vehicles set for 2035. For the majority of van operators, battery electric vehicles will be the appropriate technology and many fleet operators have committed to zero emission tailpipe vehicle fleets within the decade. Given the nature of commercial vehicles, moving to zero tailpipe emission technologies presents a significant challenge as they must be able to perform all the same functions and operations as effectively as their diesel equivalents, in a cost-effective way for businesses. When developing grid networks in Wales, the needs of commercial vehicles will differ significantly from private vehicles; the level of power required will be much greater than for cars and access to that power will be different, including geographical location and physical space required to accommodate the vehicles.

**Commercial Vehicle Fleet and Depot Electrification Challenges**

As some operators are currently in the process of electrifying their van fleets, they are already facing challenges with the cost of installing charging infrastructure at their depots, alongside the additional cost if it requires a power upgrade to enable it to have sufficient energy supply. Costs of over £1 million have been reported and it is often not commercially viable, especially if premises are leased. In this instance, if the business relocates, the infrastructure will remain and, in some cases, may even be removed by the landlord, resulting in no further benefit to the business from the investment they had made.

Logistics UK has campaigned for the fair and equitable apportionment of the costs of increasing energy supply to commercial vehicle operators' premises when decarbonising their fleets to meet net zero targets, so that fleet operators do not have to fund a disproportionate proportion of the upgrade costs, at the same time as they are already investing significant sums in acquiring electric vehicles and associated chargepoint infrastructure.

We also want to see a strategic approach to grid network upgrades, with milestones showing increasing percentages of registered vehicles expected to have moved to electric, and outline costs of the upgrades required to ensure those milestones are met. Currently, operators have to approach DNOs for each site on a case-by-case basis; adopting a strategic approach will facilitate the nationwide shift to electric vehicles and provide reassurance to operators that the infrastructure will be in place in time.

If the cost burden of increasing electricity supply into commercial premises is not addressed fairly it will delay or even prevent fleet decarbonisation, limiting emission reductions and undermining net zero targets.

**Public Chargepoint Infrastructure**

When planning expansion of the networks and energy infrastructure, it will be necessary to consider what public chargepoint provision will be required. According to the Society for Motor Manufacturers and Trader (SMMT)[7], Wales currently has a good ratio of 12:1 electric vehicles (EVs) to public chargepoints when compared to other parts of the UK. London and the North East of England currently provides 10:1 EVs to public chargepoints but the East of England has the poorest ratio of 49:1. As the roll out of EVs increases, the number of public chargepoints will need to keep pace with fleet electrification. However, the majority of public chargepoints are installed with private cars in mind. To support the decarbonisation of commercial vehicles, plans to increase public chargepoints must not exclude commercial vehicle usage.

Commercial vehicle drivers that take their vehicles home at the end of their shift, but without access to off-street parking will need to be confident they can charge their electric vans near to where they live. Additionally, vehicles that return to depots will also need access to public charging infrastructure at times, to ensure they have sufficient charge to complete their routes. Therefore, it is vital that sufficient public chargepoints are available in urban, residential and rural areas that can be used by commercial vehicles of all sizes.

[7] https://media.smmt.co.uk/public-charge-point-ratios/

Denise Beedell
Public Policy Manager
Logistics UK
dbeedell@logistics.org.uk