ELECTRIFYING FREIGHT

A roadmap for electric HGV charging

December 2025

CHARGEUK

The voice of EV charging

Executive summary

The UK freight sector moves 1.5 billion tonnes annually, with heavy goods vehicles (HGVs) handling 80% of all goods. Decarbonising this sector offers a significant opportunity: while these vehicles represent just over 1% of the vehicles on the road, they are responsible for 16% of all UK domestic transport emissions[1]. The transition to zero-emission HGVs will play a central role in the UK's ability to meet its fifth and sixth Carbon Budgets, improve air quality and boost energy security in a critical sector.

Yet this transition has barely begun. There are around 1,000 eHGVs registered in the UK - about 0.2% of the total UK parc[2] - and in Q3 2025, just 2.4% of new HGV registrations were zero-emission trucks[3]. While recent quarters have shown encouraging growth, the absolute numbers remain tiny against the scale of the challenge ahead.

The Government has committed to ending the sale of new diesel HGVs by 2040 and projects that zero-emission HGVs will make up 22% of the HGV parc by 2035[4]. Delivering on these ambitions requires sustained, exponential growth from today's low starting point – yet the automotive, charging and freight sectors still lack the necessary clarity and confidence to invest in this transition. This is in sharp contrast to the passenger vehicle market, where BEVs accounted for more than ¼ of new registrations in August 2025, charge point operators have committed to £6bn of private investment, and the charging network now totals over 87,000 devices.

At the heart of the challenge is a classic "chicken-and-egg" dilemma. Fleets will not transition, and OEMs will not prioritise the UK market, if there is no reliable way of charging these vehicles. Yet for charge point operators, the business case for investing millions in these high-capacity sites is often very weak when so few electric trucks are on the road. These challenges are even more acute for eHGVs than for passenger vehicles, with the vehicles costing significantly more, infrastructure being especially complex, and purchasing decisions almost entirely driven by the commercial case.

It is therefore essential that the Government – in partnership with industry – acts decisively to help break this deadlock in three ways:

- **Unlock infrastructure investment**
- **Provide market certainty through regulation**
- **Close the cost gap for fleets**

In seeking solutions in these areas, the UK should look to lessons learned in the passenger vehicle sector, and to its international competitors - many of whom are now reaping the benefits of targeted action.

Recommendations

To keep pace with these competitors, and deliver on its 2040 ambition, the UK Government should:

1. Unlock infrastructure investment

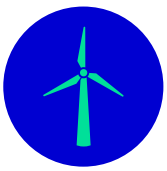
While the public charging network for passenger vehicles now comprises 86,000 devices and is growing 25-30% per year, eHGVs cannot generally rely on this infrastructure. HGV-specific charging – whether at depots or en-route - remains limited, with drivers and fleets frequently reporting that charging availability is a key barrier to adoption.

CPOs are willing to invest ahead of demand – but only when the business case stacks up. Well-designed, targeted interventions can unlock significant private investment, and the eHGV transition will need specific support to bridge the current shortfall in investment cases. The Government has already demonstrated its commitment to the EV transition more broadly through its £1.8 billion funding allocation in the 2025 Spending Review, and the £30m depot charging fund is a welcome start to this work.

To build on this, Government should also:

Create a dedicated HGV Infrastructure Fund: The UK needs equivalent support to the EU's AFIF programme, which funds up to 30% of eligible works for truck charging. This should directly fund grid connections for depot and public HGV charging sites via a streamlined delivery mechanism, as well as helping to support continued innovation in Megawatt charging – the emerging industry standard for high-power DC charging for trucks – and on-site renewable generation and storage.

Fast-track grid connections for HGV sites: High-power HGV sites require major grid upgrades, at the same time as grid queues are already lengthening. Government should recognise HGV charging sites as strategically important projects, ensuring that they can benefit from fast-track connections treatment under the Connections Accelerator Service.



Include renewable electricity in the Renewable Transport Fuels Obligation: Renewable credit schemes in the EU offer revenue support of 2.5-8.5p/kWh, boosting the investment case for CPOs and their customers. To ensure the UK remains competitive with Europe in this area, the UK should reform the RTFO in line with the EU's Renewable Energy Directive III. This additional revenue stream would make an overnight improvement to the investment case for eHGV charging infrastructure without requiring Treasury funding.

2. Provide market certainty through regulation

If Government truly wants to decarbonise the freight sector, it must give all stakeholders certainty that electric trucks are coming, and when. This is because investment – including in charging infrastructure - depends heavily on certainty about long-term vehicle uptake. The UK is now the only major European country without a binding framework to offer this certainty. Government should:

Establish a clear regulatory framework to guarantee electrification:

Whether through requiring OEMs to sell increasing percentages of electric HGVs (as for passenger vehicles), obligating large fleet operators to transition (as being considered by the EU) or introducing CO2 performance standards, a clear regulatory framework is a prerequisite to investor and consumer confidence. With fleet operators planning vehicle purchases years in advance, and replacement cycles stretching to 7+ years, the Government must act decisively to deliver its long-term ambition.

Align regulatory and technical approaches with European market:

The freight and logistics sectors are inherently international, with supply chains and vehicles movements operating seamlessly across borders. UK requirements – and technical standards for both vehicles and charge points – should be designed for interoperability with European counterparts, ensuring the UK remains on manufacturers' roadmaps and European trucks can operate seamlessly within the UK.

Credit: Milence

3. Close the cost gap for fleets

For fleet operators, the case for electrification ultimately comes down to the total cost of ownership (TCO). Most operators will switch only if the numbers add up: namely the upfront purchase price, the running costs of charging and maintenance, and the value of the truck at the end of its life. Today, all three work against electrification – and government can play a key role in changing the equation through a combination of fiscal measures and direct targeted support:

Enable electricity crediting for depot charging:

Reforming the RTFO to include renewable electricity supplied to HGVs at depots would allow both CPOs and depot managers to earn valuable credits, offsetting energy bills and installation costs and lowering the overall cost of ownership. For instance, an ICCT study has shown that with crediting in-place at depots, eHGVs have a 24% lower TCO than diesel trucks . This extra support makes high-power depot charging projects financially viable, especially in early years and funded through a credit system without the need for any Treasury spend.

Tackle the high cost of electricity:

ChargeUK analysis shows that average rapid and ultra-rapid charging sites have faced a 462% increase in standing charges since 2021. This is feeding through to higher pence-per-mile for fleets relying on public charging, as well as undermining the case for investment in infrastructure at HGV-specific public sites and private depots. Government and Ofgem should urgently accelerate proposed reforms to reverse these increases. They should also consider relief from policy costs for eHGV sites, as has been proposed for other energy-intensive industries in the Industrial Strategy.

Enhance upfront cost support:

38% of HGV operators report that vehicle cost is still their top barrier to decarbonisation . Government should consider ways to reduce this purchase price differential, whether through enhanced grant schemes or other fiscal incentives. Where support is available, multi-year settlements are essential for offering long-term certainty to fleet operators.

About ChargeUK

ChargeUK represents over 40 companies operating more than two thirds of the UK's EV charging infrastructure. Our members have invested billions in car and van charging, delivering 87,000+ public charge points. We're committed to replicating this success for freight, working with fleet operators and government to electrify UK logistics.

Endnotes

[1] HM Government, Greenhouse gas emissions from transport in 2023, https://www.gov.uk/government/statistics/transport-and-environment-statistics-2023--2/greenhouse-gas-emissions-from-transport-in-2023

[2] House of Commons Library, Electric Vehicles and Infrastructure, https://researchbriefings.files.parliament.uk/documents/CBP-7480/CBP-7480.pdf

[3] SMMT, HGV Registration data – November 2025, https://www.smmt.co.uk/new-hgv-market-falls-but-zev-uptake-quadruples/

[4] HM Government, Carbon Budget and Growth Delivery Plan, https://assets.publishing.service.gov.uk/media/6901d0c2a6048928d3fc2b55/carbon-budget-and-growth-delivery-plan-report.pdf

[5] The ICCT, Electricity crediting for depot charging: assessing a cost advantave for Poland truck operators https://theicct.org/publication/electricity-crediting-for-depot-charging-assessing-a-cost-advantage-for-poland-truck-operators-may25

[6] RHA, The future of fleets: informing the net zero transition for commercial vehicles, https://www.rha.uk.net/Portals/0/PolicyCampaigning/RHA_Net%20Zero%20Survey%20Report_FINAL.pdf

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