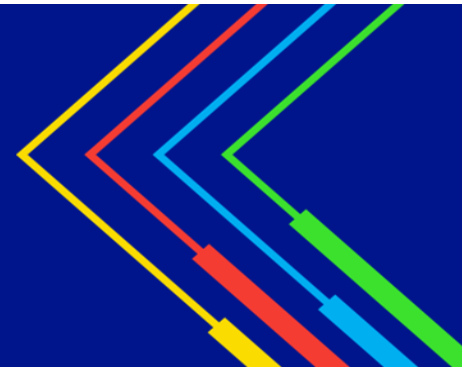


National Grid

Decarbonisation of Transport

HGV Sector – Workshop



Introduction

National Grid sits at the heart of Britain's energy system, connecting millions of people and businesses to the energy they use every day. As the electricity transmission owner in England and Wales, National Grid is an enabler of future clean transport by ensuring clean power can be efficiently moved from where it is generated to where transport sector needs it. We understand our responsibilities to the environment and future generations, as such we are working to develop solutions to make the transition to a clean economy, in which nobody is left behind.

To assist us with developing fit-for-purpose electricity network infrastructure solutions, we have been extensively engaging with stakeholders, both individually and through a series roundtables and workshops, across all sectors to understand their views and perspectives on the barriers and opportunities for transport decarbonisation. Most recently, we facilitated a specific haulage sector workshop to gain further insights on the future of the sector, with representatives from Highways England, Energy Networks Association, Green Alliance, DfT, Ofgem, Siemens Mobility, Academia, Logistic UK, ITM Power, Charge Point Alliance, Renault Trucks, Possible, Road Haulage Association, DAF Trucks, Waitrose and Transport & Environment.

This document provides a summary of the findings from this workshop, alongside series of our recommendations, we believe could help to move transport decarbonisation forward.

The discussion focussed on **three main themes**:

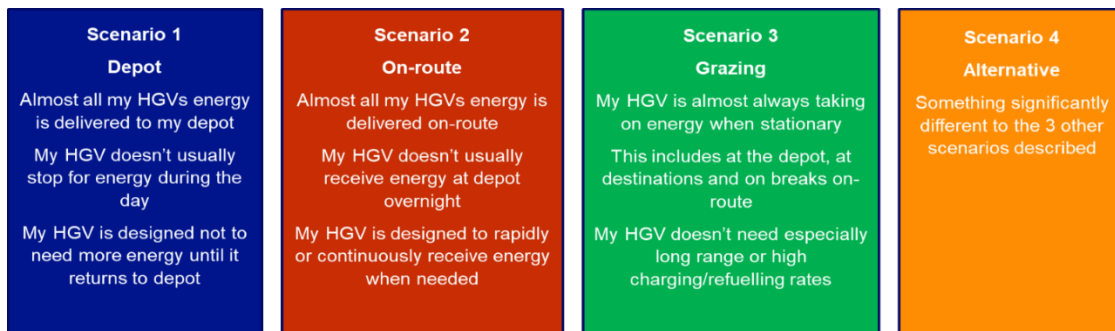
1. **Infrastructure:** Stakeholder preference on several potential 2050 energy supply scenarios, along with views on who should own refuelling infrastructure.
2. **Technology:** The challenges and opportunities for the different types of technology available, and whether multiple technologies should be rolled out to help the UK achieve net zero?
3. **Timelines:** Is zero emissions for HGV's by 2040 achievable or not and what key milestones should be in place to help the UK to achieve this?

Key Findings

There is still some uncertainty around technology: There is a degree of uncertainty among some but not all attendees around technology, with some voicing their support for electrification being a more likely solution to most of the urban and regional freight, and hydrogen potentially being used in a limited capacity for long haul freight. This point was raised on several occasions when the group were discussing the significant challenges to the adoption of zero emission HGV's, which is an important decision point for all transport sectors not just HGV's. Attendees felt that the longer this debate goes on, the more uncertainty this will present for HGV manufacturers and operators. This would likely lead to a delay in investment, to avoid risks associated with stranded assets, which ultimately have a detrimental impact on the UK achieving net zero by 2050. Upcoming technology trials were noted, but there was a clear preference from the group for 'technology winners' to emerge in a timely manner. It was noted however that there was a question of who makes this decision – as industry appear to be waiting for Government and vice-versa.

The group also identified; the total cost of ownership (with upfront vehicle costs an issue for smaller operators), vehicle lead-time & availability and the cost & lead-time of the network infrastructure as the key significant challenges to the adoption of zero emission HGV's. It was noted that "the challenge of co-ordinating truck and infrastructure leads times is often compounded by the need to apply for funding or subsidies / grants with set time limits and application processes all at the same time", which highlights the need for a more streamlined approach to these types of application processes going forwards.

Need for a balance between depot and public charge point charging / refuelling and to keep charging / re-fuelling times brief: Attendees were presented with the below four energy scenarios and were asked for views as to which they felt would be most prevalent in 2050 for the HGV sector. Most attendees felt that a balance of was required.



The group then discussed downtime for HGV recharging and refuelling, the consensus being that any downtime for charging would have to be no longer than current refuelling times (a strong case for rapid energy provision) to avoid loss of productivity or financial penalties, as profit margins in the HGV sector tend to be tight.

The cost of infrastructure was raised as an area of uncertainty by attendees, more specifically about who will pay for this. The group discussed the importance of building the right infrastructure ahead of need, as any new infrastructure would need to go through established processes which are subject to substantial lead times, so prioritising this for delivery early on was deemed a no-regrets activity by the group. Attendees were asked who they feel should provide and own the charging infrastructure, with 'specialist infrastructure/energy providers' being a favourite. *Note: not all attendees felt they could answer this question as it depends on the technological solution being chosen.*

Who are you expecting to provide/own refuelling infrastructure?	Total
Specialist infrastructure/energy providers	88%
Depot/service station/destination facility owners	69%
HGV owners/operators	50%
Central/regional/local government	38%
Participants	16

A clear plan from Government on how to decarbonise the HGV sector is essential: Attendees agreed on a real need for the Government to outline clear targets and milestones, both nationally and locally, for the pathway for each transport sector to decarbonise, as there is currently for cars and vans. It was felt this would provide broader certainty and clarity, providing organisations with the confidence to make timely investments decision on either transitional or end-state technology vehicles. However, it was viewed that any timelines for ending the sale of new ICE HGVs must take into consideration the expected lifecycle of new vehicles.

Attendees felt that the introduction of government incentives is a step in the right direction but were considered by some, as a 'drop in the ocean' compared to the cost of new vehicles - which was identified as one of the significant challenges to zero emission vehicle adoption. Suggestions like introducing distance based charging and suitable incentive schemes were discussed, in order to discourage the ongoing use / purchase of Internal combustion engine HGV's and encourage take-up of transitional or zero emission technology vehicles. It was also noted that the HGV sector must achieve zero emissions (not net zero) by 2050 at the latest, as the maritime and aviation sectors will take up large portions of the offsetting.

Low-regrets activity must be prioritised and delivered at-pace: Attendees believe that Government plans must promote significant activity as early as possible in order to get traction and build momentum. Examples of what the group considered low-regrets activity included; accelerating technology trials and building the required low-regret, prioritised infrastructure at pace, to enable the UK's transition to net zero.

Workshop Recommendations

Following the workshop and having socialised with industry participants, we believe there are several recommendations the Government should review, to help drive forward transport decarbonisation for the haulage/heavy good vehicle sector.

1. **DfT to set out a clear process and timeline detailing how and when they plan to review technology projects and to accelerate the technology trials to provide much needed industry clarity/certainty, enabling organisations to make timely investment decisions.**
2. **Government to accelerate Project Rapid and consider all road transport modes plus rail electrification in relation to public charge points and transport hub charging solutions.**
3. **Government to set out an ambitious plan that promotes interoperability with Europe and a timetable to phaseout HGV ICE sales and use, with interim targets and milestones aligned with carbon budgets**
4. **Act on the Transport Decarbonisation Plan as soon as possible, prioritising the delivery of low-regrets, prioritised work, such as building the required infrastructure at-pace and accelerating technology trials**
5. **Ensure a fair and transparent financial framework is in place to encourage the transition to zero emission HGV's (in line with carbon budgets and Climate Change Committee recommendations).**

National Grid - Next Steps

HGV and bus sectors: We are continuing to working collaboratively with stakeholders from across these sectors, including local authorities to explore the opportunities, barriers and infrastructure requirements for 'transport charging hub' infrastructure solutions, in order to reduce the cost of connecting to the grid network, minimising works and sharing infrastructure assets. We will also continue to collaborate with Government to confirm the network infrastructure requirements and accelerate infrastructure build wherever possible, in support of Project Rapid.

Rail: We will explore potential synergies with road transport electrification, as Government plans to further electrify the rail network emerge.

Maritime and Aviation: We are scheduling engagement with key stakeholders from across these sectors to further explore and understand the decarbonisation opportunities, barriers, the available technologies and their infrastructure requirements.