

RHA

Achieving Net Zero for heavy commercial vehicles

Hydrogen Industry Leaders conference

10th December 2024



@RHANews



@roadhaulageassociation



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Our position

- *We support Net Zero*
- *Some exemptions may be necessary*
- *RHA objectives -*
 - *shape the conditions to deliver a “workable transition”*
 - *give our membership the tools and information they need to invest in Net Zero*



Our message

- *“Unashamedly pragmatic”*
- *How we achieve Net Zero is critical*
- *We want a Net Zero which:*
 - *is viable*
 - *ensures the seamless flow of goods & passengers throughout the United Kingdom*
 - *includes all businesses - especially SMEs*
- *Multiple technologies likely*
 - *battery electric*
 - *hydrogen fuel-cell and ICE*



Our approach

Break down the structural barriers preventing Net Zero implementation

- bring down cost
- invest in energy infrastructure
- ensure vehicle performance
- develop skills
- change mindsets



Context



Facts & figures (1)

UK: HGV new diesel sales phase-out dates

- below 26 tonnes from 2035
- all new diesel sales from 2040

Coach phase-out dates not yet announced

EU: Manufacturers to cut average emissions of new HGVs by:

- 45% in 2030
- 65% in 2035
- 90% in 2040

CO₂ emissions from HGVs account for:

- around 20% from UK domestic transport
- around 6% of all UK domestic CO₂ emissions

(Source: DfT Statistics, ENV0202, December 2023)

Estimated £100bn investment* needed to decarbonise HGV sector alone

(*Source: Green Finance Institute, November 2023)

- between £40-75bn of additional finance needed for operators
- between £11-24bn needed for depot infrastructure
- between £1-2bn needed for public infrastructure



Facts & figures (2)

535,000 UK-registered HGVs (Source: DfT Statistics VEH1111, July 2024)

Around 300 electric HGVs registered in UK, with 27 different electric HGV models available on the market

(*Source: SMMT)

HGV fleet profile (Source: ACEA – “Vehicles in Use” February 2024)

- diesel 98.4%
- low carbon fuels 0.5%
- hydrogen 0% (NB. Hydrogen HGVs still at prototype stage)

UK fuels market currently comprises

- Diesel – 56%
- Petrol – 31%
- HVO – 1%
- Biodiesel – 3%
- Bioethanol – 3%
- Biomethane (CNG & LNG) – 0.3%

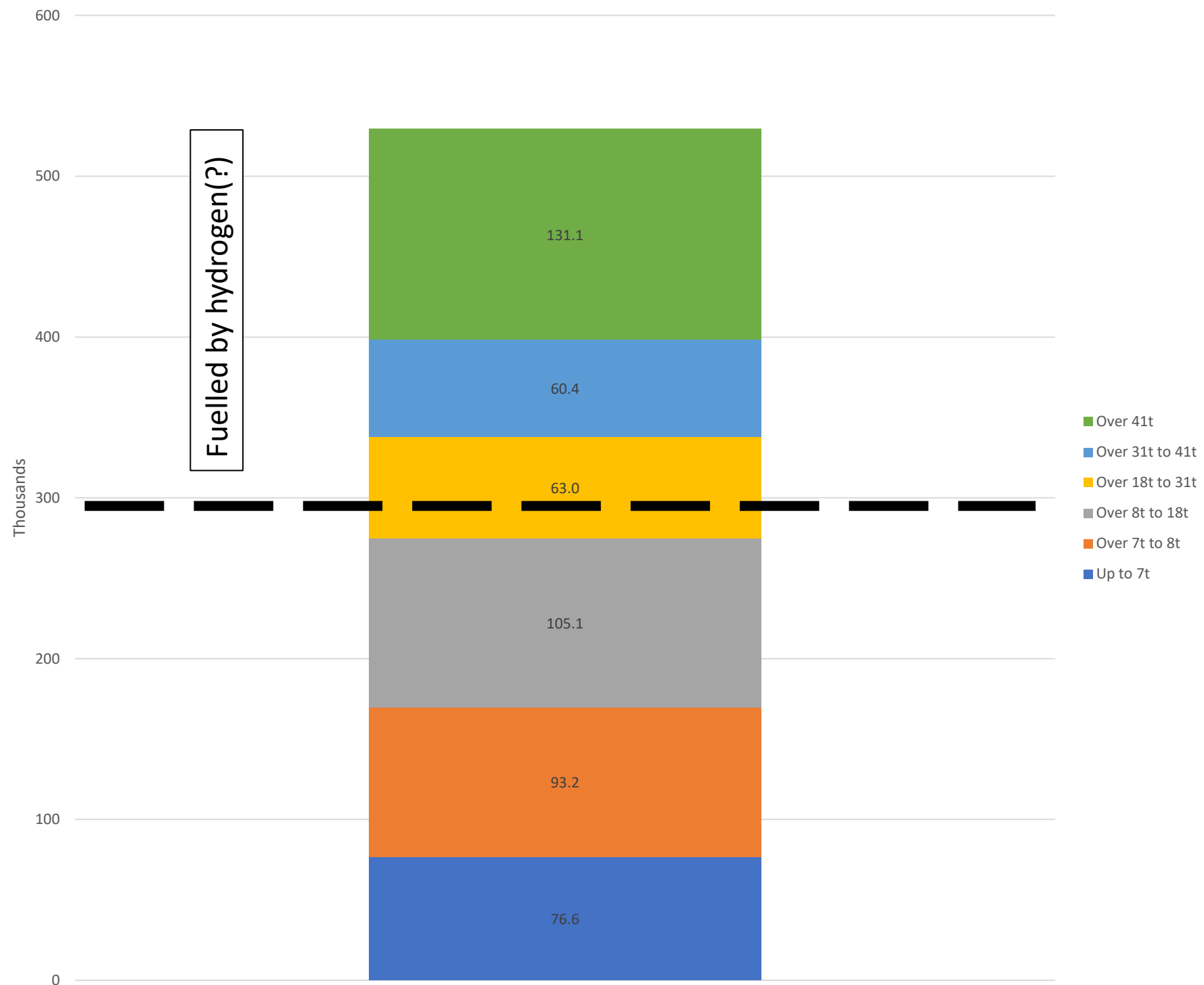
(Source: DfT Statistics RF0101, 2023)



Facts & figures (3)

HGVs in UK by gross vehicle weight (n=535,000)

Source: DfT Stats VEH0506



Facts & figures (4)

Profile of road freight industry

Businesses in road freight and UK as whole by no. of employees, 2021

Size of business	Number of employees	Freight transport by road
Micro	0 to 4	83.8%
	5 to 9	9.9%
Small	10 to 49	5.3%
Medium	50 to 249	0.9%
Large	250+	0.1%
Total (%)		100%
Total (no.)		63,305

Source: University of Cambridge, Centre for Sustainable Road Freight, January 2023, p15



Performance requirements

- Ideal refuelling time within 45 mins – unlike electric, hydrogen meets this requirement
- Ideal average range for an HGV = 600 miles
- National Grid estimates:
 - electric HGVs - annual demand of 29TWh/yr or 3.3GW of continuous energy demand
 - hydrogen fuel-cell HGVs - annual demand of 98TWh/yr or 11.2GW of continuous energy demand



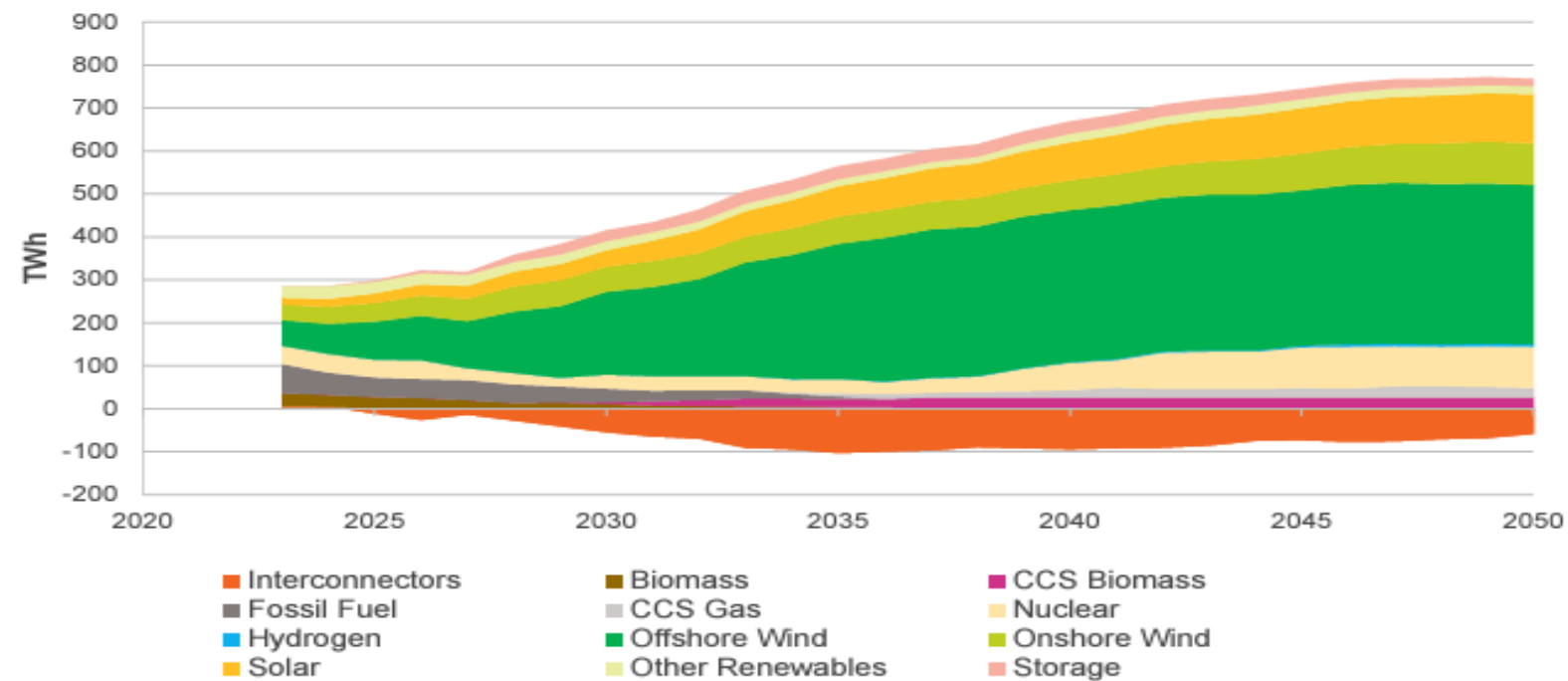
Can the electricity grid cope?

- National Grid forecast



Electricity

Figure ES.08: Electricity output by technology in Holistic Transition



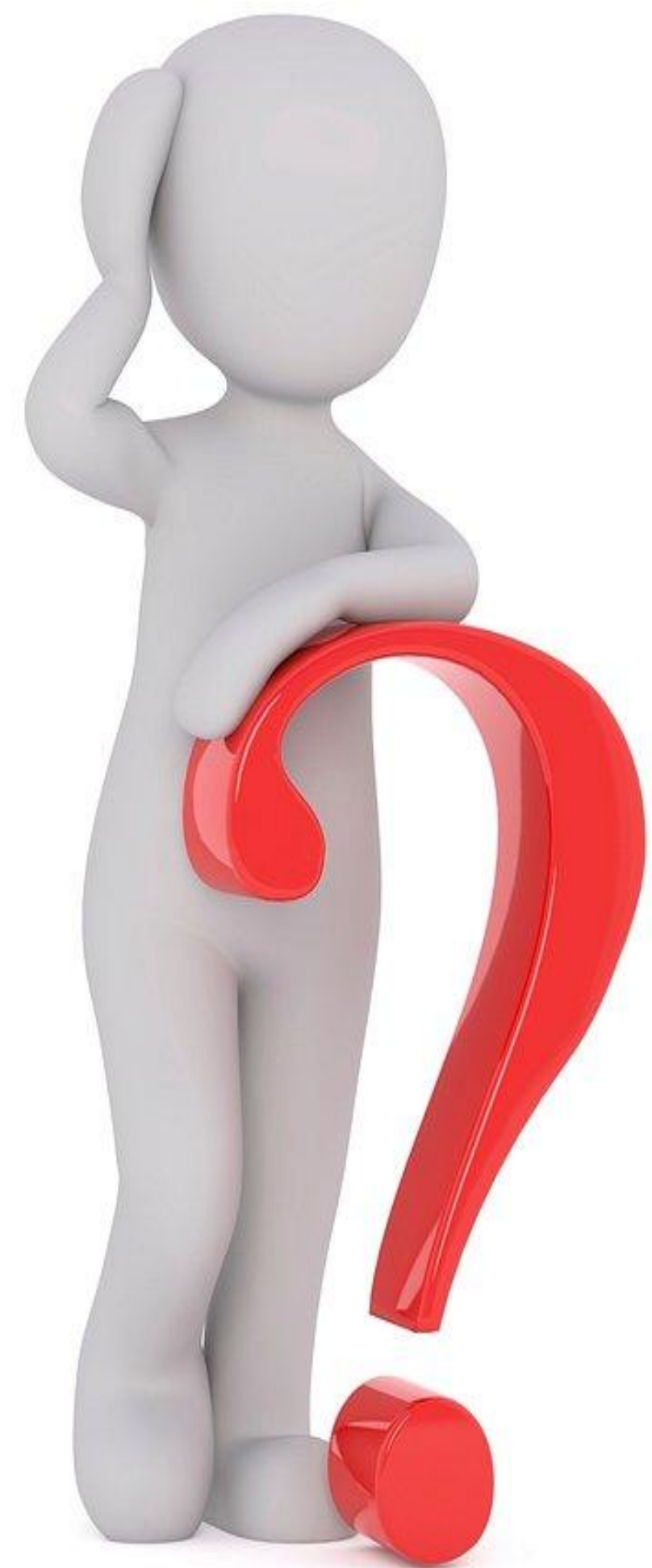
OBJECTIVE

Phase-in zero emission HGVs and coaches through natural vehicle replacement cycles

in tandem with National Grid investment in grid capacity and expedited connections process

- Source: National Grid's *Future Energy Scenarios (FES) report*, July 2024, p108

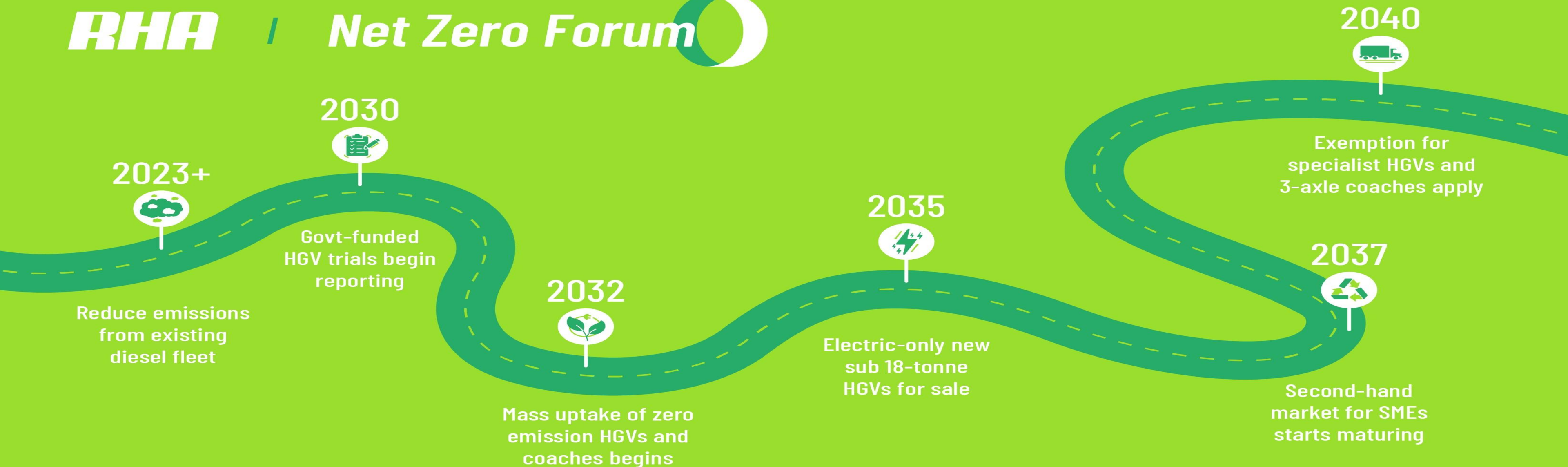
*How do we make
this work?*



RHA roadmap



RHA / Net Zero Forum



Zero Emission trucks and coaches - predicted sales trajectory

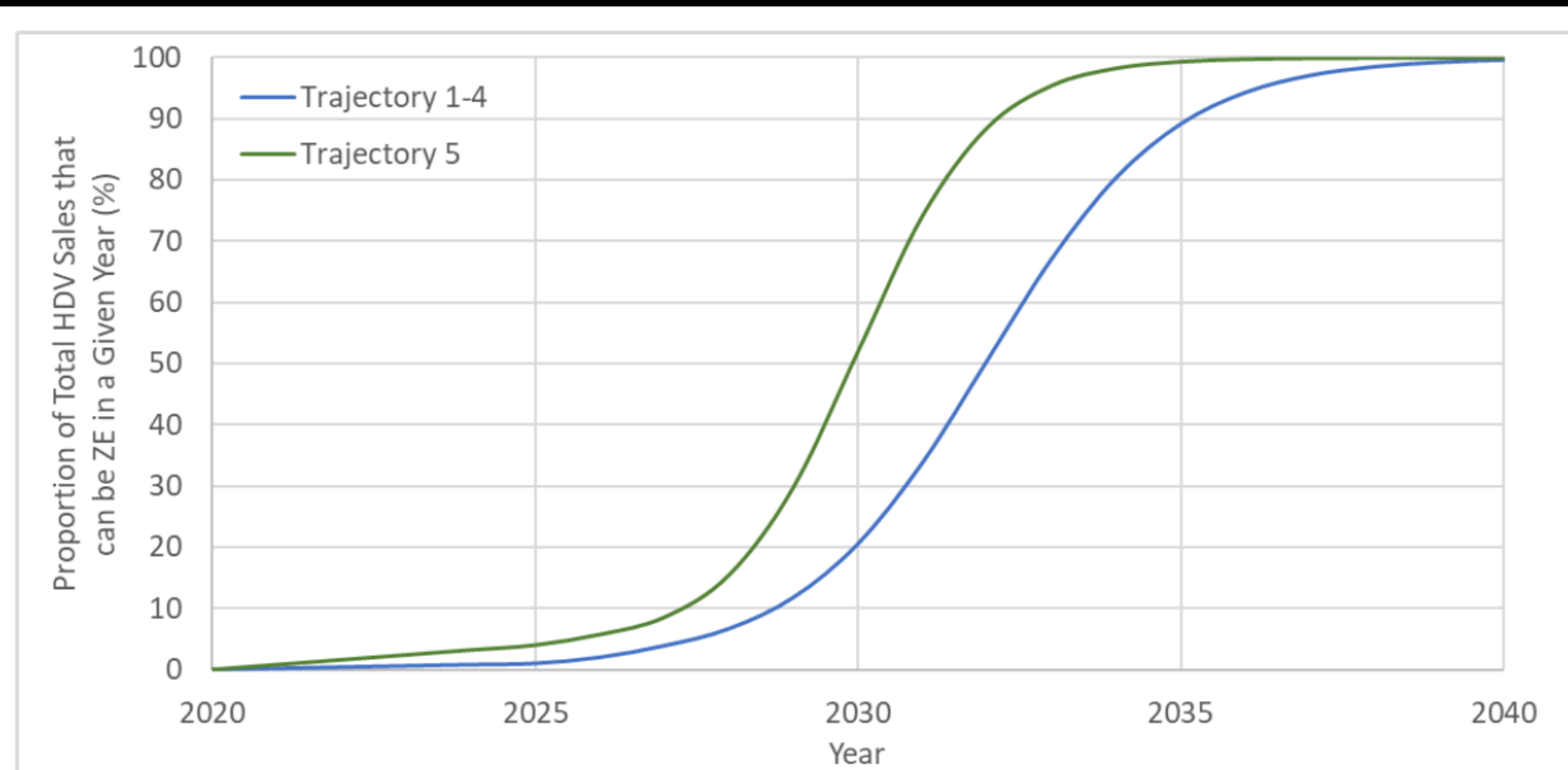


Figure 64: OEM Supply Constraint Curves for Trucks and Coaches

- Source: For Climate Change Committee Sixth Carbon Budget (December 2020) - analysis to provide costs, efficiencies, and roll-out trajectories for zero emission HGVs, buses and coaches, Element Energy, December 2020, p105

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