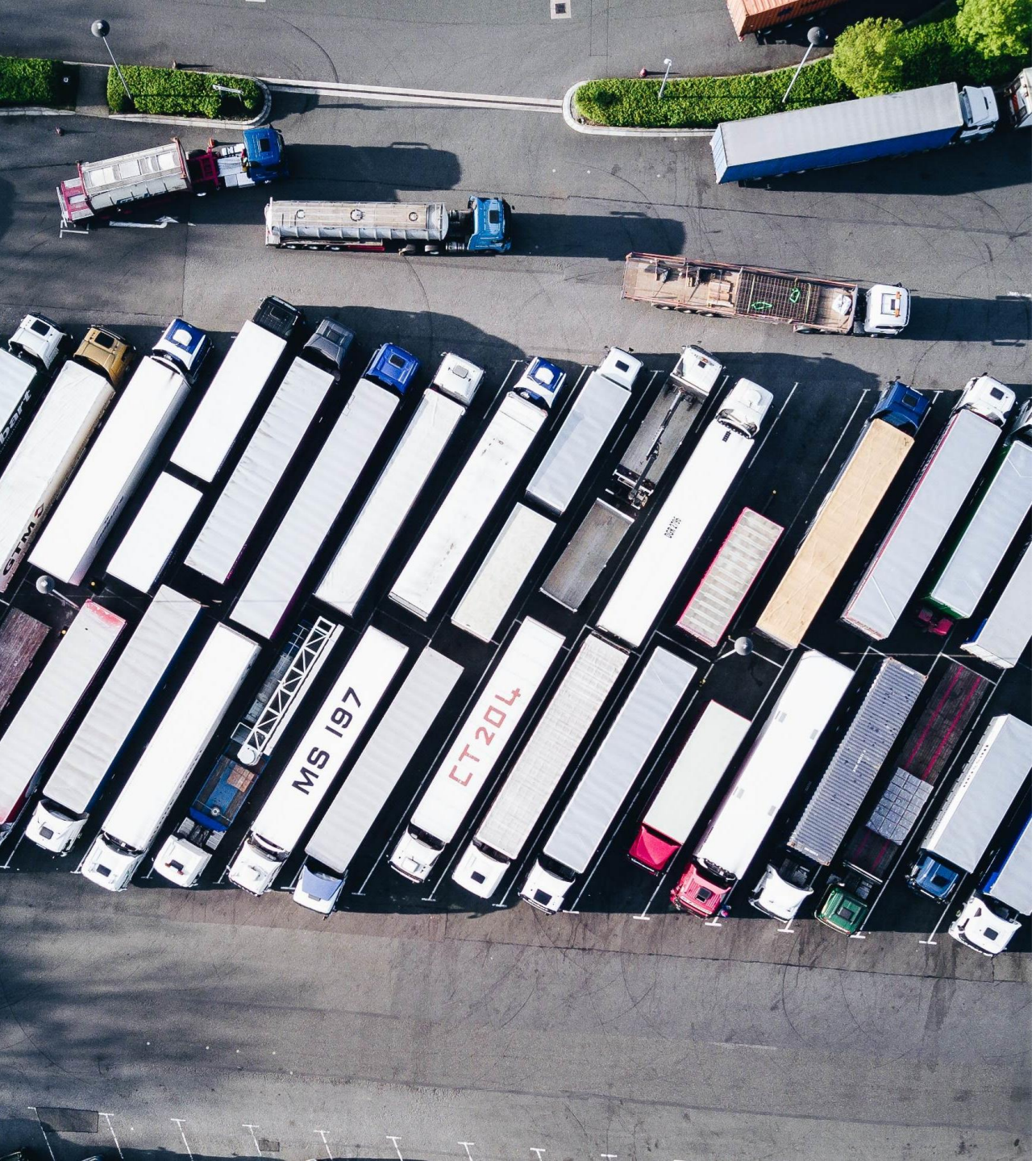
Upfront Pricing of eHGVs: Risks and Opportunities for Electric Truck Uptake

MARCH 2026

Sustainability is our business



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01. Executive Summary

Executive Summary - Upfront Pricing of eHGVs: Risks and Opportunities for Electric Truck Uptake

Objective : This report assesses whether truck manufacturer pricing strategies align with regulatory ambition and shows where misalignment creates risks or opportunities for electric Heavy Goods Vehicles (eHGV) uptake.

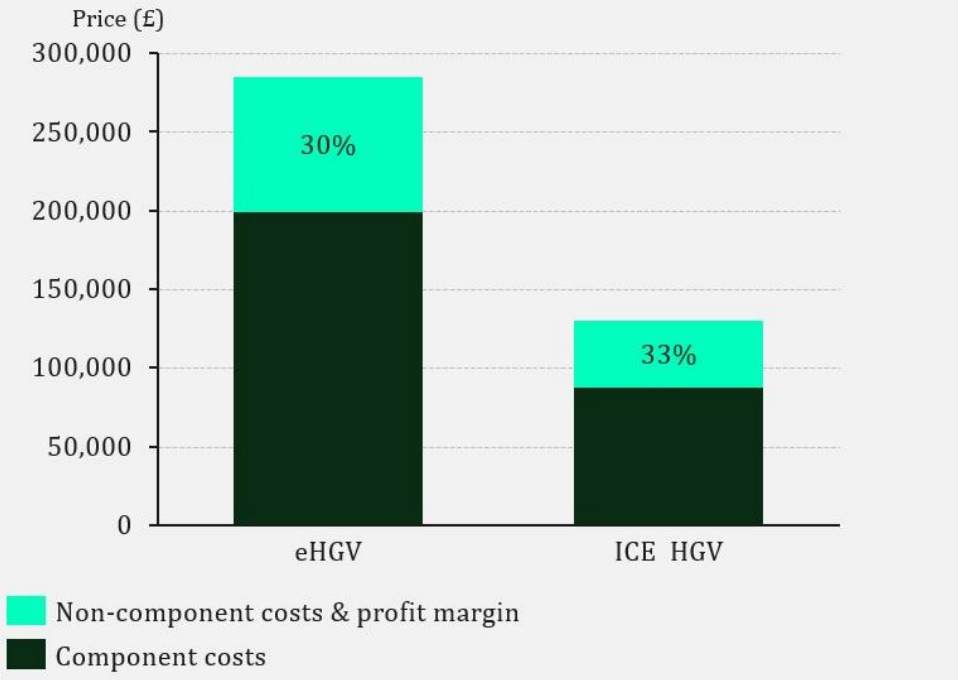
Findings: Growth in eHGV sales and the EU production gap

- **Sales of eHGVs have increased** in previous years. Sales in the Chinese market demonstrate the feasibility of rapid scaling, while sales projections for the UK, EU and rest of world lag behind. Looking forward, forecasts predict highest sales to 2030 across China, with Europe and US also seeing growth
- **Production targets show that growth doesn't meet this demand.** When looking at the EU market, truck-manufacturer zero-emission sales targets (assessed as a proxy for eHGV sales) lag behind what would be required to meet 2030 policy targets. However, many are dated or restated as broader ZEV aspirations and therefore may not reflect current internal strategies.

Findings: High upfront cost and price uncertainty remains a bottleneck

- **Upfront cost and infrastructure remain the top market barriers for eHGV adoption:** For the UK and EU market, fleet-manager surveys identify high upfront vehicle cost alongside high upfront cost of infrastructure as the primary blockers to move away from ICE HGVs.
- Cost teardown shows that **batteries drive the structural uplift in costs** for eHGV over ICE HGV. Non-component costs represent 30% of eHGV price versus 33% for ICE HGV.
- The **elevated non-component costs** observed for eHGVs imply truck manufacturer pricing discretion that should dilute with scale.

Price breakdown of a diesel and BEV arctic tractor unit
Extract from Section 4



	eHGV	ICE HGV
Non-component costs and manufacturers' margin (£) [2, 3, 5, 6, 7]	85,992	42,900
Component costs (£) [2, 3, 4]	199,008	87,100
Total costs (£)	285,000	130,000

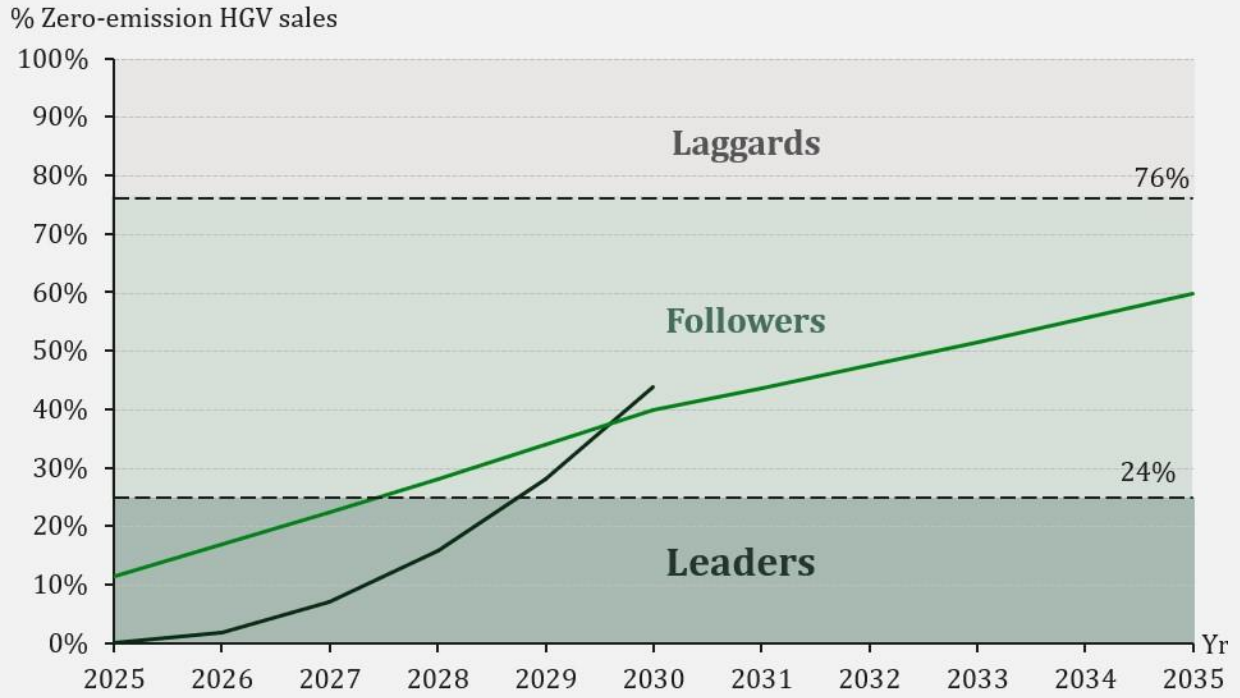
Executive Summary - Upfront Pricing of eHGVs: Risks and Opportunities for Electric Truck Uptake

Findings: EU Market segmentation & quantifying the addressable market for eHGVs

- **Archetyping reveals uneven readiness for eHGV adoption**: Fleet size and capital access vary widely, so archetyping helps identify which operators can adopt eHGVs under today's pricing and infrastructure constraints.
- **The addressable market for eHGV**s: The near-term new-vehicle demand is clustered in a small leadership cohort with stronger capital access and large fleet operations.
- **If truck manufacturers focus solely on this Leaders category this caps the near-term addressability at 24% of total potential ZEV vehicle sales** and therefore **risks falling short of 2030 targets, with 60,000-75,000 fewer ZEVs (or 54,000 – 67,500 fewer eHGVs) sold in 2030** compared to EU policy and manufacturer targets.
- **Achieving EU/UK 2030–2035 targets requires truck manufacturers to move beyond Leaders and unlock adoption among the larger Follower segment.**

The market analysis centres on the UK as a primary dataset and compares UK-EU-US market characteristics to derive transferable learnings for EU and US markets. It draws upon analysis of Zero Emissions Vehicles (ZEVs) to understand eHGV uptake. 2030 ZEV targets are used as a proxy for eHGVs as 90% of ZEVs by 2030 are assumed to be eHGV. Leasing models were not considered in the analysis.

Comparison between available market segments and zero-emission HGV sales targets by vehicle manufacturers
Extract from Section 4



This analysis is based on ZEVs as a proxy for eHGV uptake (Appendix 1)
EU policy based on CO_2 regulation,[1] assuming a 1% per year improvement in conventional ICE vehicle efficiency.[2]
Manufacturer targets extracted from the SBT target Dashboard,[1] and from specifically mentioned eHGV targets from vehicle manufacturers.[2]
Vehicle Manufacturers assessed: Volvo Group (Volvo Trucks and Renault Trucks), Daimler Trucks (Daimler and Mitsubishi), Traton (MAN and Scania) IVECO and DAF.[3]

Executive Summary - Upfront Pricing of eHGVs: Risks and Opportunities for Electric Truck Uptake

There are five recommendations that reduce barriers to eHGV adoption and would enable truck manufacturers to accelerate eHGV sales

Recommendations for Operational Change

1

Review and adjust pricing and cost-allocation

Move a larger share of non-component and transition costs from a small volume of eHGVs toward a broader portfolio to provide the ability to recover costs as volumes rise as well as to avoid a self-reinforcing high-price and low-volume loop.

2

Improved financing and service model evolution

Develop standardised leasing, battery-leasing and 'as-a-service' propositions that bundle financing, maintenance, uptime guarantees and energy services, while providing manufacturer-backed residual-value support and clear maintenance/operations standards so that long-term risk becomes measurable and mid-market fleets can adopt eHGVs earlier.

3

Support customers on Infrastructure, Energy and Risk

Companies should provide integrated solutions that reduce friction and accelerate adoption: depot-readiness support, energy optimisation (including future value streams from flexibility and vehicle-to-everything (V2X)) and risk-mitigation (e.g. battery health certificates, residual value guarantees).

4

Pursue segment-led Go To Market propositions

Develop a tailored set of propositions that recognise the specific needs (and duty cycles) for different archetypes across Leaders, Followers, and Laggards.

Recommendations for Advocacy to support market evolution

5

Seek coordinated (not dampened) future-fit policy targets

Seek long-term clarity on HDV policy and charging-infrastructure commitments so that manufacturers can scale zero-emission production capacity in line with regulatory trajectories (e.g. in the UK and EU ; retain the HDV CO2 standards, fully implement AFIR charging obligations, avoid the AFIF funding gap in 2026-2027, extend the Plug-in Truck Grant and Depot Charging Scheme).

02. Objectives & Purpose

Objectives & Purpose

Background and Context

The electric vehicle (EV) market for light-duty vehicles is maturing as cost reductions are being realised with production at scale, though some truck manufacturers have recently reassessed parts of their EV investments.[1] Despite this there is a global shift towards electrification of HGVs, with increasing EV sales percentage targets, global electrification trajectories, and high-level production ambitions. The EU has introduced increasingly stringent policy signals, supported by defined Carbon Dioxide (CO_2) reduction targets and proposed phase-out timelines, and the UK is currently consulting on its own HGV CO_2 emissions regulatory framework.

Against this backdrop of tightening policy and shifting market dynamics, truck manufacturers could be vulnerable to new market entrants without more competitive price strategy (as observed in recent years in the zero-emission bus market).[2] Rather than positioning for scale and volume production, manufacturers are currently pursuing a low-volume, high-price approach that is limiting their addressable market.

In the UK market, the emerging policy direction, operator characteristics, and adoption patterns provide a case study through which the implications of business strategy and regional regulatory drivers can be examined. The relevance and transferrable learnings for the EU market are demonstrated.

Objectives & purpose

This report assesses whether eHGV pricing strategies of truck manufacturers align with the regulatory ambition and market opportunity and as such identifies where misalignment could be creating risk or opportunity for eHGV uptake.

This report has been prepared as an independent study by ERM.

[1] Financial Times (2026) *End of electric vehicle euphoria triggers $65bn hit for carmakers.*
[2] S&P Global (2025) *Zero-emission buses reshape EU bus production*
[3] European Commission (2025) *New communication assesses market readiness of heavy-duty road transport vehicles*

Scope of Analysis

Analysis objectives

1. **Market and Cost Analysis :** Research on ZEV and eHGV uptake, truck cost teardown and truck manufacturer pricing strategy with the aim to identify the gap in production targets set by truck manufacturers when compared with policy targets, and to identify the current transition cost and margins associated with scaling production of eHGVs.
2. **Market Sizing and Addressability**: A review of market sizing and segmentation by fleet size and likely access to capital with an aim to identify the new eHGV sales demand described by different customer archetypes (the minimum addressable market for eHGVs) under current pricing strategies.

Analysis caveats

- This report focuses on eHGVs, as these are expected to represent the majority of zero emission HGVs in Europe (up to 90% by in 2030).[3] In some areas of this report, targets or commitment for zero-emission vehicles (ZEVs) are referenced, rather than explicitly linking to eHGVs. These have been treated as proxies for eHGVs, applying the assumption that 90% ZEVs will be eHGVs in 2030.
- The market analysis centres on the UK as a primary dataset and compares UK-EU-US market characteristics to derive transferable learnings for EU and US markets.
- This study is based on information available at time of drafting. The methodology underpinning this analysis is high level and has been agreed with the Sunrise Project.

03. Methodology

Methodology

For a Detailed breakdown of the methodology and assumptions, see Appendix 1.

1

Diagnosing the supply-side: policy, truck manufacturer commitments, and true cost drivers

The analysis maps what regulation requires, what truck manufacturers state they will deliver, and what it currently costs to build an eHGV.

A structured literature and data review (IEA[1]/ICCT[2] forecasts, company targets, Science-based target (SBT) disclosures, and teardown studies) is used to build a policy-aligned ZEV uptake trajectory and to extract production ambitions set by truck manufacturers. These curves are compared to quantify the supply–demand gap facing the market.

A diesel vs. eHGV cost teardown is then developed using component data, published vehicle specifications and teardown benchmarks to distinguish component costs from non component (i.e. discretionary or transition-related) costs. This step is done to identify whether current truck manufacturer pricing reflects unavoidable cost or may be reflecting strategic pricing decisions.

2

Understanding the demand-side: who can actually buy new eHGVs?

Market sizing and segmentation is carried out by processing UK Vehicle Operator License (VOL) data, enriched with company indicators and capital-access proxies.[3]

Keepership data and replacement cycles are used to separate fleets that buy new vehicles from those that rely on the second-hand market. This filtering produces the set of operators who genuinely participate in the new-vehicle market to 2035.

A two step approach is used to define archetypes; 1) Fleet operators are segmented by fleet scale and financing strength to create readiness archetypes (termed Leaders, Followers and Laggards); and 2) These archetypes are adjusted to remove the 2nd hand market.

Adoption readiness is then combined with pricing constraints to estimate the Minimum Addressable Market (MAM) under today's capital expenditure (CAPEX)-only pricing.

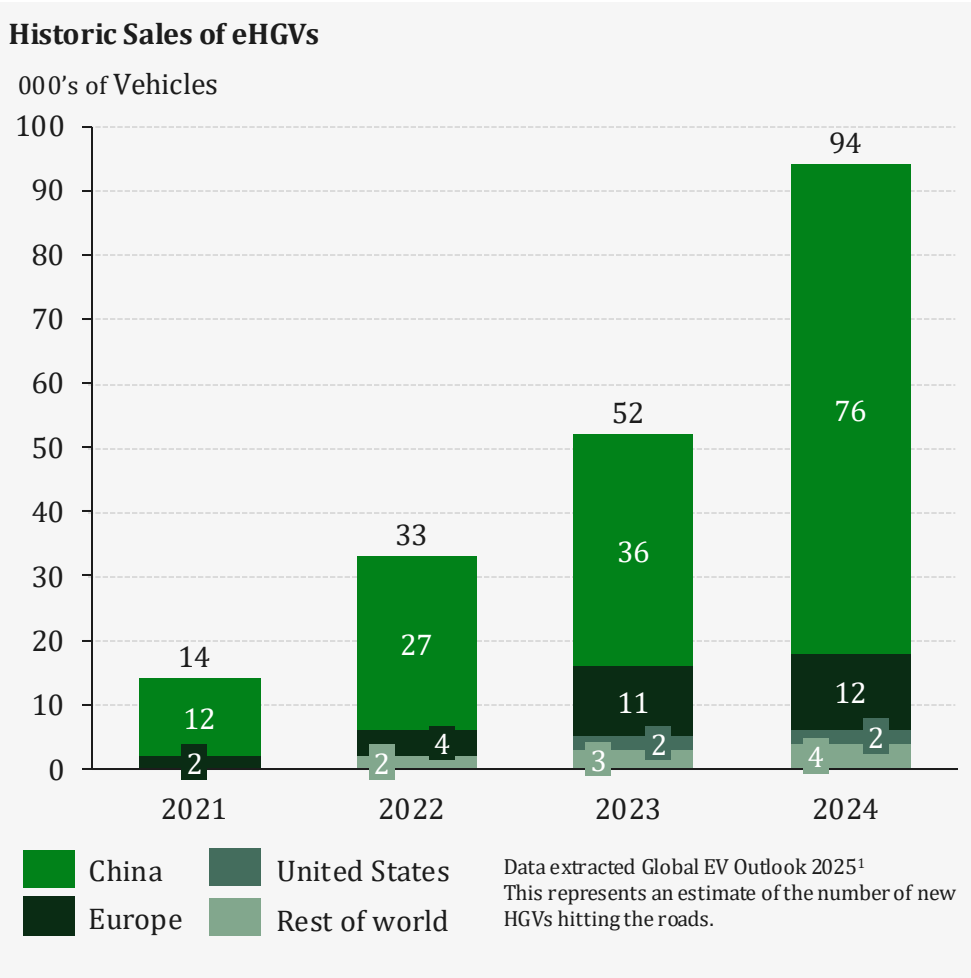
[1] IEA (2025) *Global EV Outlook 2025 Expanding sales in diverse markets.*
[2] International Council on Clean Transportation (2025) *ICCT European Heavy Duty Vehicle Market Development Quarterly.*
[3] Department for Transport, UK government (2025) *Traffic Commissioners: goods and public service vehicle operator licence records.*
[4] European Commission (2025) *New communication assesses market readiness of heavy-duty road transport vehicles*

04. Insights

Insights: Growth in eHGV sales and the EU production gap

ERM

Global sales of eHGVs has grown in recent years. Rapid scaling seen in the Chinese market slows



The slope of China's curve shows how fast volumes can scale

Between 2021 and 2024, sales volumes of eHGV have accelerated markedly faster in China than in Europe or the United States, illustrating the scale that can be achieved when industrial policy and subsidy mechanisms actively support the transition.[1]

In December 2025, registrations of New Energy Vehicles in China (to include BEV, PHEV and EREV in the Chinese market) reached 45,300 units, representing 54% of monthly heavy-truck sales.[2] This milestone marks the first time that electrified powertrains outperformed diesel within the segment.

The adoption curve in China continued to steepen: eHGVs accounted for approximately 13% of heavy-truck sales in 2024, before rising to an average penetration rate of around 22% in the first half of 2025, further demonstrating the pace and scale of market transformation.[1]

Sales across Europe lag behind. However, growing sales across truck manufacturers signals increasing demand.

Across Europe, leading Western vehicle manufacturers are growing. For example:

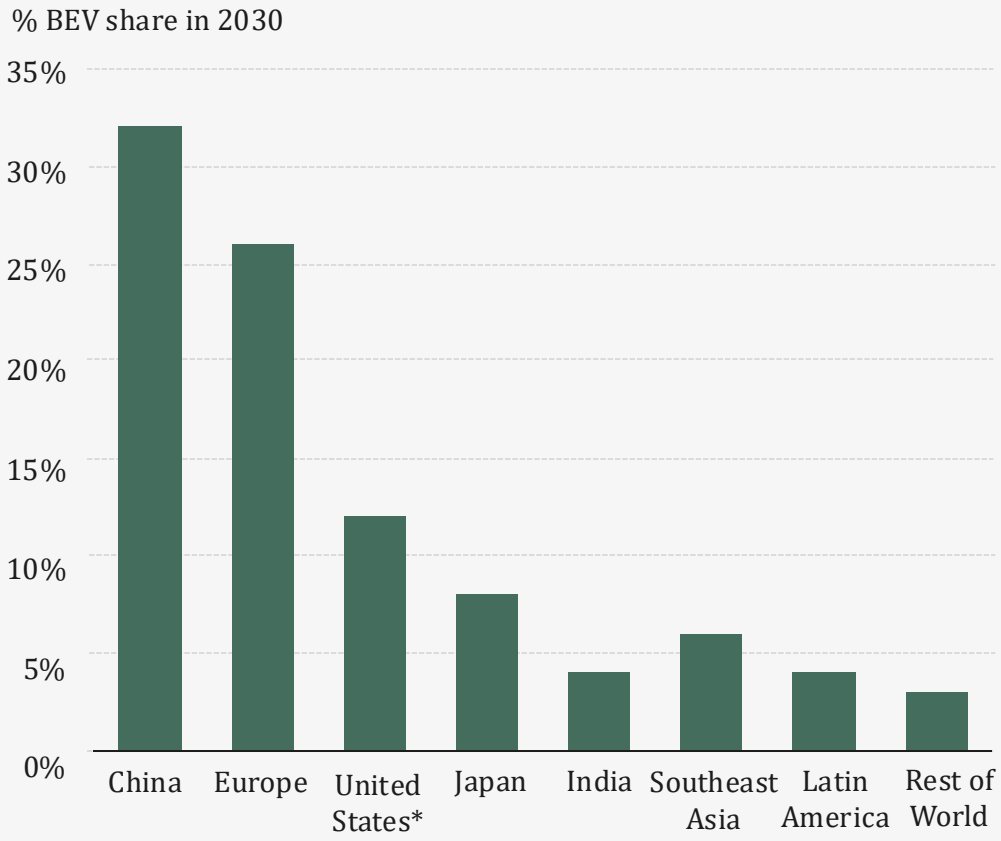
- Volvo Group (Volvo Group, Renault, Mack) eHGV deliveries grew strongly at +38% YoY in 2025 (Q3 2024>Q3 2025).[3]
- Between 2023 and 2025, Daimler sales of eHGVs sales nearly doubled (+95%), with year-on-year growth from 2024 to 2025 of +67%.[4]

This is evidence that these manufacturers are now scaling eHGV volumes materially faster than the wider EU market. Despite this, the regional sales share of zero-emission heavy trucks still sat around 1.4% in 1H-2025, underlining how far the market must climb to mirror China's trajectory.[5]

[1] IEA (2025) *Trends in heavy-duty electric vehicles.*
[2] Electrive (2026) *Year-end surge: electric trucks outsell diesel for the first time in China.*
[3] Volvo Group (2025) *Volvo Group Report on the third quarter 2025*
[4] Daimler Truck (2026) *Daimler Truck Holding AG: Investor Relations Release.*
[5] International Council on Clean Transportation (2025) *ICCT European Heavy Duty Vehicle Market Development Quarterly.*

Looking forward to 2030, global forecasts predict China will lead the global shift towards electrification of HGVs, with Europe and US also seeing growth

Global forecast of eHGV Sales in 2030



Data extracted Global EV Outlook 2025[1]

*This does not reflect the recent repeal of emission standard or tax credits which were responsible for short term eHGV adoption

Global forecast trends of eHGV sales indicates that truck manufacturers concentrate early volumes in markets where regulation and customer economics are strongest.

International Energy Agency (IEA) forecasts China and Europe as front-runners in eHGV adoption; each propelled by strong regulatory pressure, industrial-policy alignment and eHGV product availability.[1] Their projected 2030 eHGV shares stand well above other regions at 32% and 26% respectively in 2030.

Beyond these two markets, progress is uneven:

- US policy signals have softened. In February 2026, the US Environmental Protection Agency (EPA) repealed GHG standards for HGVs, the Clean Trucks Plan.[2,3] This announcement signals a reduction in federal pressure to adopt eHGVs, tempering the momentum versus the EU and China.
- Many regions in Asia, Latin America and the rest of the world are on flatter trajectories.[1] 2030 BEV shares remain low in the IEA outlook, reflecting a combination of weaker incentives, early-stage supply chains, and limited availability of heavy-duty charging.

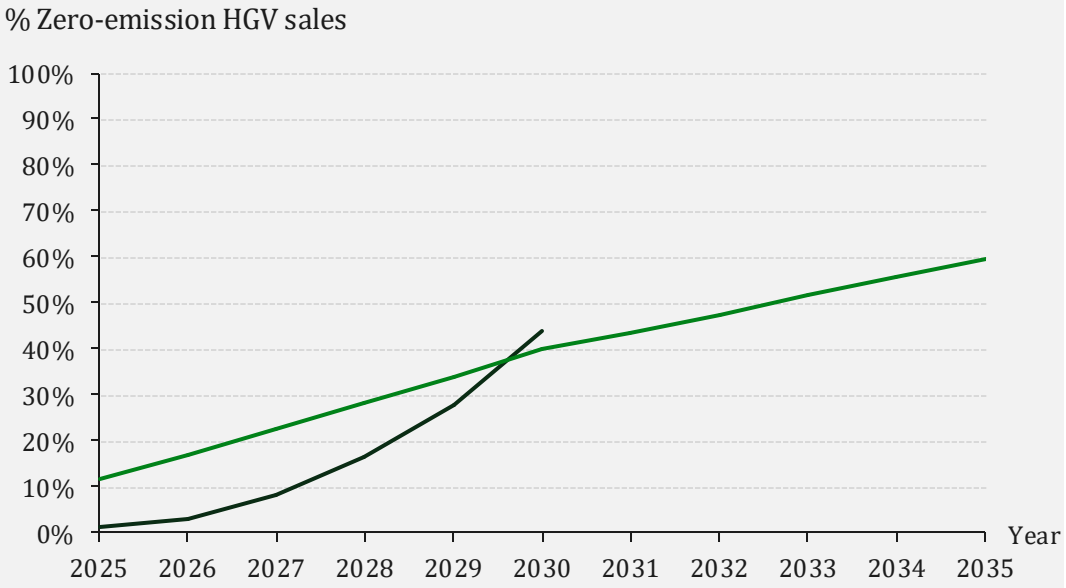
Falling battery costs and rollout of charging infrastructure across the EU and China support this shift.

Battery cost reduction in China (nearly 30% in 2024) increases the competitive advantage of producers relative to the rest of the world, supporting increased sales forecasts of eHGVs.[4] Roll out of Megawatt Charging System (MCS) across Europe and China supports the transition.[1] In the EU, the Clean Transport Corridor Initiative and AFIR-funded TEN-T corridor build-outs fund high-power eHGV charging along major routes linking ports and inland logistics hubs.[5]

[1] IEA (2025) *Global EV Outlook 2025 Expanding sales in diverse markets.*
[2] EPA (2025) *EPA Announces Action to Implement POTUS's Termination of -Harris Electric Vehicle Mandate.*
[3]EPA (2026) *Final Rule: Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act*
[4] Bloomberg (2023) *China's Batteries Are Now Cheap Enough to Power Huge Shifts.*
[5] IFA (2025) *EU Green Freight Corridors: The Legislation, Funding and Infrastructure Deadlines Shaping 2025-2030 Logistics.*

When assessing the EU market, there is a gap between vehicle manufacturers' production targets and policy/market trajectories for zero-emission vehicles in the EU, indicating a strategic mismatch

Zero Emissions Vehicle (ZEV) manufacturers' commitment to ZEV sales compared to EU policy



This analysis is based on ZEVs as a proxy for eHGV uptake (Appendix 1)
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Manufacturer targets extracted from the SBT target Dashboard,[3] and from specifically mentioned eHGV targets from vehicle manufacturers.[4]
Vehicle Manufacturers assessed: Volvo Group (Volvo Trucks and Renault Trucks), Daimler Trucks (Daimler and Mitsubishi), Traton (MAN and Scania) IVECO and DAF.[4]

[1] European Commission, *CO_2 emission standards for heavy-duty vehicles.*
[2] ICCT (2024), *CO2 emissions from trucks in the European Union: An analysis of the 2021 reporting period.*
[3] SBT (2026) *Target Dashboard.*
[4] Manufacturers websites and Department for Transport, UK government (2026). *Consultation on a New Heavy Goods Vehicle CO_2 Emissions Regulatory Framework for the United Kingdom.* See appendix for further details.
[5] NOW *Evaluation of the 2024 Cleanroom Talks with truck manufacturers (2024)*

Whilst the announced ambition from manufacturers of Zero Emissions Vehicles (ZEVs) would achieve 2030 policy targets, many of these manufacturer targets are dated and may no longer reflect their internal position.

ZEVs cover all zero emissions vehicle types, including BEV and hydrogen fuel cell (assessed as a proxy for eHGV sales, see Appendix 1). ZEV manufacturer production commitments fall into three broad categories:[3,4]

- **High (25% of EU market):** Publicly stated targets for zero-emission HGVs by 2030 (or similar), which have been recently restated or confirmed.
- **Medium (50% of EU market):** Publicly stated ambitions for zero-emission HGVs but have not been recently restated or confirmed or have been dropped.
- **Low (25% of EU market):** No appreciable commitment to zero-emission production targets but can include SBTi scope 3 reduction targets for use of sold goods.

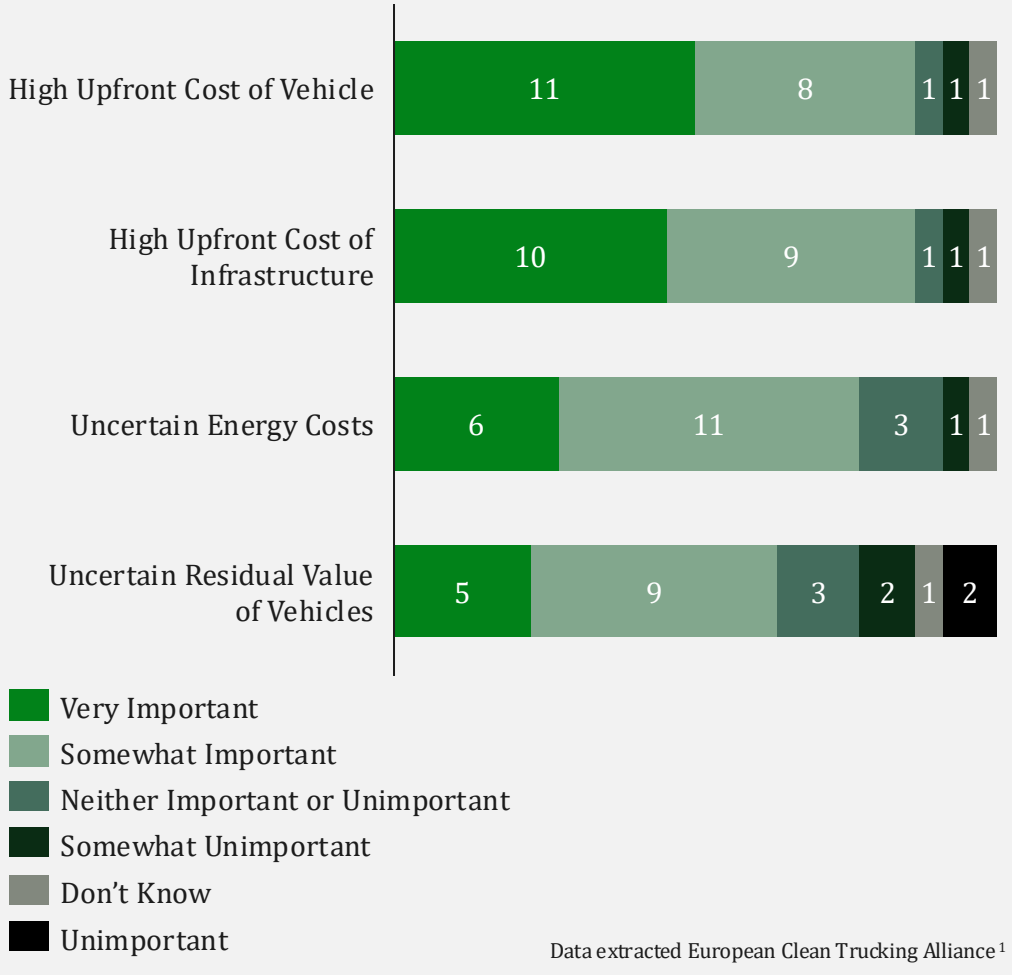
Assuming the market share of HGV truck manufacturers does not significantly change, company commitments as stated look sufficient to meet the 2030 EU CO_2 emissions standards.[1,2] This is broadly consistent with manufacturer's projections for the EU, from the 2024 NOW cleanroom talks.[5] However, many of these manufacturer commitments are over 3 years old so there is uncertainty over whether they still reflect internal plans. In some cases, recent disclosures place greater emphasis on alternative low-carbon fuels rather than explicit eHGV scale-up. This creates doubt over the pace of the transition and whether manufacturers will follow the steep trajectory implied by previously published ZEV targets.

If manufacturers are no longer aligned with these original targets, the implied supply of eHGVs **could fall short of meeting the 2030 EU CO_2 targets**. This leaves manufacturers at risk both of losing market share to competitors or new entrants which are prioritising electrification and facing financial penalties by needing to buy credits from competitors or pay non-compliance fines (€4,250 per vehicle per gCO_2/t.km above the target from 2025).[1]

Insights: High upfront cost as a bottleneck

Studies have shown that the two primary barriers for ZEV adoption are the high-upfront costs of the vehicle and high infrastructure costs

Importance of the top four barriers to ZEV adoption according to 22 truck fleet managers in Europe[1]



Data extracted European Clean Trucking Alliance[1]

Up-front pricing is the top cited barrier to ZEV adoption in Europe

A March 2024 study carried out by the European Clean Trucking Alliance,[1] sought to identify the top barriers to ZEV adoption for truck fleet managers in Europe. This analysis of ZEVs can be used as a proxy to understand eHGV market trends. The results of the survey were:

1. High upfront costs of ZEVs are the biggest concern of stakeholders in the ZEV industry. ERM industry engagement identified that many operators report inability to absorb this additional CAPEX requirement to facilitate an eHGV.
2. Associated infrastructure costs were the next largest concern. The charging infrastructure for eHGVs can require multi (million £/$) megawatt grid connection requests. Access to power (especially against a backdrop of Data Centre demand) is a common challenge across UK, EU and the US. [3]
3. Fleet managers are especially wary of uncertainty in energy prices as they generally rely on consistent costs and cash flows to generate financial plans.
4. Residual value uncertainty around ZEVs is another important point for fleet managers, as this discourages the involvement of financial institutions in financing decarbonisation initiatives. It is a risk that is difficult to forecast.

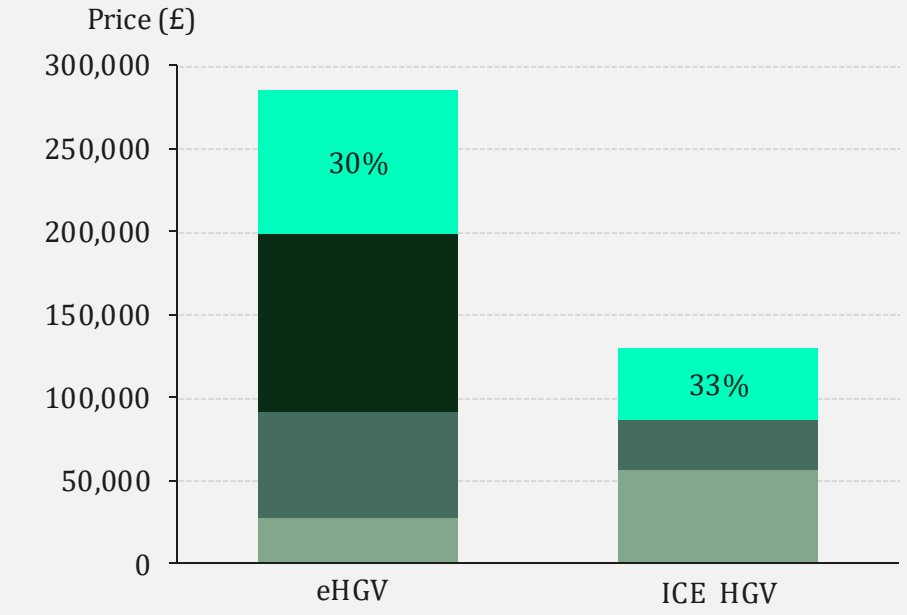
Further responses to the survey also mentioned that uncertainty of maintenance costs as ZEVs age is a risk as this market is relatively new. The cost of new parts and maintenance as large ZEVs age is not well understood.

Survey respondents were mainly large fleets, which is not representative of the overall European truck market.[2] Because the survey only reflects large, capital-rich fleets, the identified pricing barriers likely underestimate the true market challenge. Smaller fleets will be even less able to absorb the high non-component-driven eHGV price premium.

[1] European Clean Trucking Alliance (2024) *Study: 15 recommendations for the financing of zero-emission trucks.*
[2] Toelke, M.and McKinnon, A.C. (2021) *Decarbonizing the operations of small and medium-sized road carriers in Europe. Smart Freight Centre (Amsterdam) and Kühne Logistics University (Hamburg).*
[3] Powermag (2025) *Getting the Grid and Charging Infrastructure Ready for Heavy-Duty Electric Trucks*

An itemised breakdown of HGV components is necessary to understand the cost profile and resulting price point

Price breakdown of a diesel and BEV arctic tractor unit



	eHGV	ICE HGV
Glider (£) [1]	63,830	31,200
Powertrain (£) [2, 3, 4]	27,000	55,900
Battery (£) [2, 3, 4]	108,178	
Non-component costs & profit margin (£) [2, 3, 5, 6, 7]	85,991	42,900
Total costs (£)	285,000	130,000

Detailed Cost teardown comparison for ICE HGVs and eHGVs

The largest component price for ICE HGVs is the powertrain

The powertrain is the dominant cost component for ICE HGVs at 43%, with Non-component cost and margin at 33% (of which ~12% is expected to be company margin) and the Glider comprising 24%.

eHGVs have a large battery cost and higher absolute "non-component" costs

The largest component cost for an eHGV is the battery itself, which could cost over £108,000 for long-haul articulated eHGVs. Although cheaper motors and power electronics offset some costs, e-HGVs currently have notably higher manufacturing costs than diesel trucks.

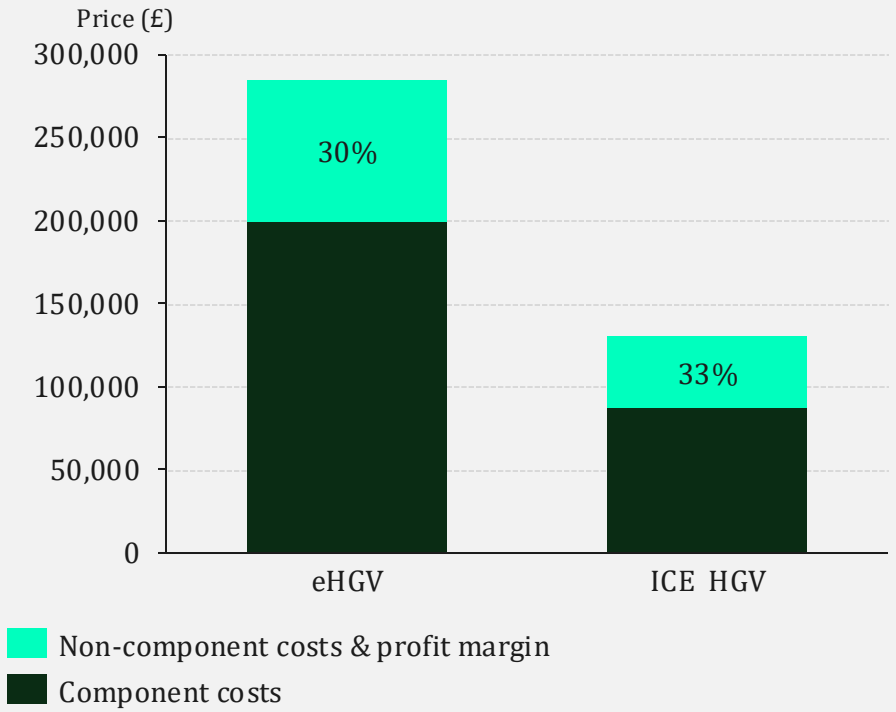
By comparing the component costs with known prices of these vehicles, there is a gap, which has been attributed as 'non-component' costs on the left. **This is substantially higher for an eHGV (tractor unit) compared to a diesel HGV.** This cost is likely to be made up of:

- **Marginal assembly costs:** These include assembly line employee salaries, as well as other assembly line running costs (electricity, machinery maintenance). This is expected to be comparable between electric and ICE, assuming as same level of productivity per assembly line.
- **Company indirect costs and company profit:** These are company expenses not directly linked to truck manufacturing. These could either be added as a fixed value per truck, but may be added as a % markup, which will result in a higher absolute cost on eHGVs.
- **Investments in eHGV production capacity:** This could include developing and construction of new assembly lines, securing supply chains, new tools and upskilling workers to produce HGVs. These costs could either be **distributed across all HGVs sold** (leading to a small cost across many HGVs) or **concentrated solely on eHGVs** (leading to a higher cost on a few eHGVs sold).

[1] Z. Wang et al. (2024) *A total cost of ownership analysis of zero emission powertrain solutions for the heavy goods vehicle sector.*
[2] Ricardo, (2021) *E-Truck Virtual Teardown Study. International Council on Clean Transportation.*
[3] Scania. (2025) *Scania's three electric machines – a closer look.*
[4] Mercedes-Benz. (2025) *eActros Charged to change.*
[5] Daimler Truck (2025) *Annual Report.*
[6] Traton (2025) *Annual Report.*
[7] Scania (2025) *Annual and Sustainability Report 2024: Driving the shift*

The price breakdown suggests that while transition-related factors explain much of the eHGV uplift, manufacturers retain pricing discretion to shape competitive positioning and volume strategy

Price breakdown of a diesel and BEV arctic tractor unit



	eHGV	ICE HGV
Non-component costs and manufacturers' margin (£) [2, 3, 5, 6, 7]	85,992	42,900
Component costs (£) [2, 3, 4]	199,008	87,100
Total costs (£)	285,000	130,000

Simplified Cost teardown comparison for ICE HGVs and eHGVs focusing on comparing component and non-component costs.

Additional component costs explain some of the eHGV uplift

The differences in component costs between eHGV and ICE HGVs total an estimated **£111,908**. This represents an increase of ~**130%** from ICE components to eHGV components. Given the cost of the battery (see previous slide) this increase of component cost is inevitable. This premium is expected to decrease over time as heavy-duty battery costs continue to fall.

Electric trucks have higher "non-component" costs

There are significant differences between the non-component costs between eHGVs and ICE HGVs totalling an estimated **£43,092** representing an increase of **101%**. As set out on the previous slide, there are several non-component costs which drive the observed cost disparity. From this analysis **it is unclear how these additional costs are distributed,** if increased costs are extraneous or how many are a justifiable increase due to immaturity in eHGV manufacturing processes.

Despite the difference in absolute costs associated with an eHGV, the proportion of non-component costs is currently similar between eHGVs **(30%)** and ICE HGVs **(33%).** As battery and e-powertrain costs fall over the next decade, the absolute level of non-component costs would be expected to decrease. If the non-component share were to remain high or increase, this would indicate that companies are maintaining margin or overhead allocations rather than passing scale benefits to customers.

The price breakdown will vary across manufacturers. Given the significantly larger cost for eHGVs, this suggests non-component costs are being **concentrated on a low volume of eHGVs** rather than distributed across the portfolio. This creates a feedback loop, where high prices for eHGVs means fewer are sold, therefore costs are concentrated on few eHGVs, which maintain high prices. **These costs will need to reduce per eHGV to achieve scale, achieving scale will in turn dilute these costs between a growing portfolio.**

For citations; see previous slide

Current production commitments and cost structures indicate that truck manufacturers are calibrating production volumes cautiously, which may not yet be fully aligned with the scale required to meet long-term eHGV market growth

Transition costs are currently inflating eHGV price points

The price breakdown shows that a significant share of the current e-HGV price uplift is likely to relate to transition-related factors such as retooling, new production lines, and early-stage powertrain and battery integration. These are expected to reduce as production scales and manufacturer learning curves improve.

The initial gap between a policy-aligned uptake and current production targets creates uncertainty for operators

The mismatch between policy-aligned demand and currently stated production targets set by truck manufacturers, suggests that near-term (the next 24 months) supply constraints may persist. This places pressure on truck manufacturers to accelerate investment and production ramp-up, increasing their exposure to transition risks.

Truck manufacturers face a structural financing challenge under current vehicle-sale business models

The combination of (a) high transition costs on the supply side and (b) high upfront CAPEX for customers on the demand side makes the traditional vehicle manufacturer 'sell-the-vehicle' model challenging for a large proportion of potential customers. This reduces a manufacturers' ability to pass on early transition costs while maintaining market share under current business models.

Limited visibility on non-component cost allocation complicates customer decision-making

While batteries and e-powertrain explain a large part of the uplift, a portion of non-component costs remains difficult to attribute precisely. This adds uncertainty for operators forecasting total cost of ownership (TCO), payback periods, residual value and procurement timing.

Business Model Implications

Service-based and financed models could become increasingly important to unlock adoption

Outside of reducing the upfront cost of electric HGVs, growth in leasing, battery-leasing, operational contracts, and 'as-a-service' models could be used as ways to bridge affordability gaps and enable operators to adopt e-HGVs at the speed required by policy targets. This creates commercial implications for truck manufacturers, financiers, and infrastructure partners.

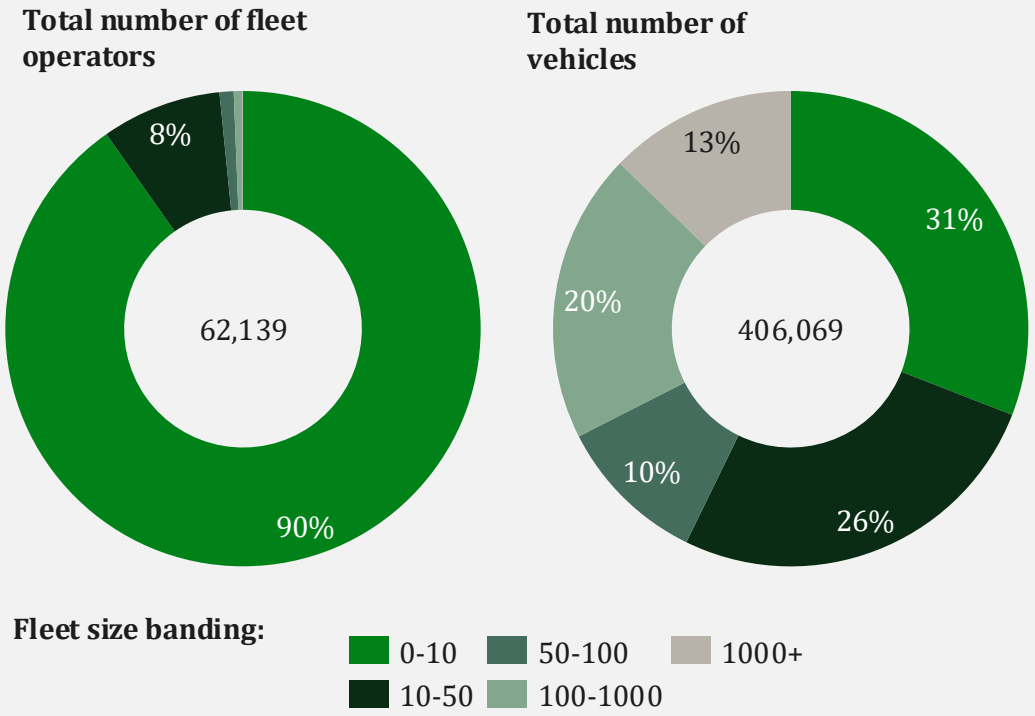
Early market design will shape long-term competitive dynamics

As supply gradually scales and transition costs fall, the way companies structure pricing models, allocate transition costs, and design bundled service offerings will influence their ability to capture future market share.

Insights: Market segmentation

The UK HGV fleet operator market is dominated by micro-operators, creating a structurally fragmented landscape beyond the large early adopter segment

Segmentation of the UK HGV market by fleet size banding



ERM analysis of Department for Transport (DfT) data on goods and public service vehicle operator licence records[1] across the UK, alongside publicly available data on the relevant company.

Due to the fragmented nature of the HGV market, a small number of very large operators shape early eHGV demand signals

The number of private sector businesses in the UK in 2024 was 5.5 million **99.1%** of which are small businesses (0-49 employees).[2] Of all the companies in the UK, **62,139** are licensed to operate an HGV (discounting bus and coach operators).

Fleet ownership is fragmented in the UK, with approximately 90% of all fleet operators running fleets of 0 – 10 vehicles.

- These micro-operators represent the overwhelming majority of companies in the sector, but only 31% of all HGVs in the UK.
- This 'long tail' of micro-operators reflects the highly decentralised and diverse nature of the UK road freight market.

Large operators control a major share of HGVs operational in the UK, but form a fraction of the market.

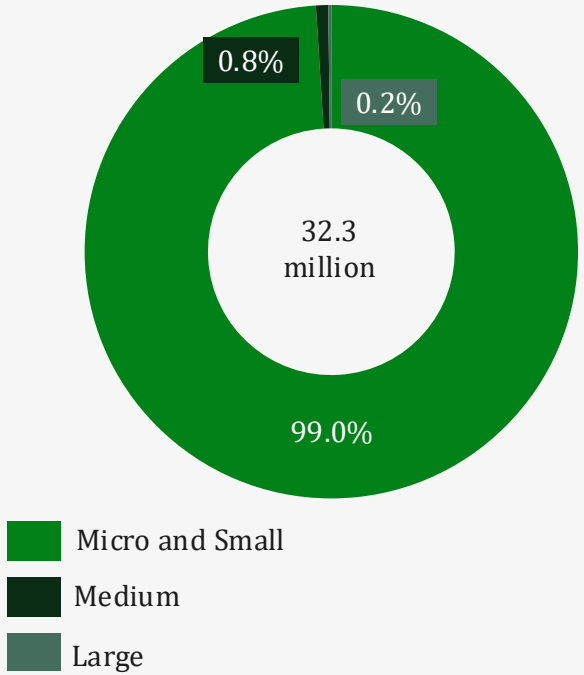
- Operators with 100 – 1,000 vehicles represent just 0.6% of operators but own 19.7% of the total fleet of vehicles.
- The very largest operators (1,000+ vehicles) account for just 0.04% of companies but hold 12.8% of the fleet.

The small and medium enterprises (SME)-heavy structure implies that most companies face smaller margins and slower capital-turnover cycles, which typically create adoption lags for new technologies. At the same time, **a small number of very large operators potentially have the ability to exercise substantial purchasing power to shape early eHGV demand signals and in turn company propositions.**

[1] Driver and Vehicle Standards Agency (2025) *Traffic Commissioners: goods and public service vehicle operator licence records.*
[2] Department for business & Trade (2024) *Business population estimates for the UK and regions 2024: statistical release.*

EU company-size data shows a freight market dominated by numerous micro-operators alongside a small set of large fleets, creating a diverse set of demand profiles relevant for eHGV uptake

Split of the sizes of companies in the EU



Data extracted from Eurostat[1]

Similar to the UK, a fragmented EU freight market dominated by micro-operators, with a small number of large pan-EU fleets driving early eHGV adoption

Across the EU, the company base is overwhelmingly composed of micro and small firms[1], shaping a long-tail freight market with constrained capital and slower technology turnover. At the same time, a very small cohort of large pan-EU logistics players account for a disproportionate share of freight activity with some deploying eHGVs at scale providing early demand signals.

- A micro or small business for the EU has between 0 and 49 employees (equivalent to the 0-10 and 10-50 bands), with this segment making up 99% of companies (compared to 99.1% in the UK).[1]
- Given the overall market composition of enterprises in the EU by size are similar to the UK we would expect the long-tail pattern of SMEs to be represented in the fleet operator market.

We expect large pan-region EU logistics players to amplify this effect more so than in the UK, because their operations are spread across multiple Member States. This early eHGV uptake is demonstrated by:

- XPO Logistics ordering 165 Renault E-Tech eHGVs in France.[2]
- Amazon ordering over 200 Mercedes-Benz eActros 600 for Germany and the UK, supported by 360 kW depot chargers, demonstrating viability for high-mileage middle-mile routes.[3]

Given the similarities between the UK data on enterprise size distributions and that from the EU, the resultant freight market composition and eHGV readiness can be deemed representative for both markets.

Similar patterns of adoption are observed in the US by major operators (with long-haul and regional distribution) with PepsiCo[4] (through Tesla Semi deployments) and Schneider[5] (through their Freightliner eCascadia fleet). These examples reinforce that early eHGV uptake globally begins with a small leadership cohort of large operators.

[1] Eurostat (2025) *Micro & small businesses make up 99% of enterprises in the EU.*
[2] Renault Trucks (2024) *XPO Logistics strengthens its decarbonised fleet with an order for 165 Renault Trucks electric trucks, including 105 Renault Trucks E-Tech T 44.*
[3] Daimler Truck (2025) *Major contract for Mercedes-Benz Trucks: Amazon orders more than 200 eActros 600 | Daimler Truck*
[4] CCJDigital (2024) *Pepsi spills the beans on Tesla Semi's real-world hauling performance*
[5] *Schneider* (2024) *Schneider is first major carrier to achieve six million zero emission miles with the Freightliner eCascadia*

The HGV fleet operator market can be split into archetypes according to fleet size and access to capital to describe readiness to adopt eHGVs

A two stage approach was taken to establish Fleet Archetypes

The **readiness** of an HGV operator to adopt eHGVs can be determined by the scale of the fleet and its operational complexity, and the fleet's access to capital.

UK fleet data was assessed through a two-stage approach to assign an EV adoption readiness archetypes:[1]

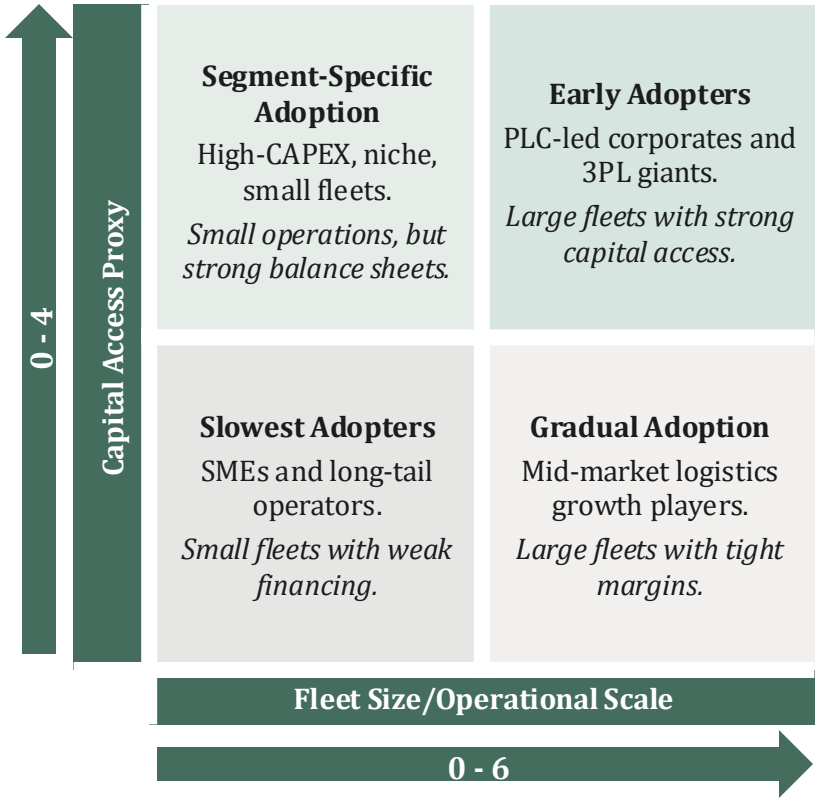
1) An archetype framework has been developed to describe the HGV market. The framework considers scoring criteria based on fleet size/ operational scale and a proxy for capital access, as described below. Fleet data was assessed against the below scoring criteria.
2) The archetypes are adjusted to remove the 2nd hand market, and the remaining HGV fleets re-categorised based on stricter categorisation to confirm the archetypes (termed Leaders, Followers & Laggards).

Framework Criteria Scoring

Fleet Size/Operational Scale		Capital Access Proxy	
Fleet Size *Score: 0 – 4*	**Trailer Intensity** *Score: 0 – 2*	**License Type** *Score: 0 – 2*	**PLC** *Score: 0 - 2*
Larger fleet suggests large operational scale and buying power	High intensity suggests more complex drop and hook operations. Low intensity suggests specialised or less predictable duty cycles.	**Restricted:** own-account operators (retail, utilities, construction) **Standard National:** haulage within UK (mid-market 3PLs) **Standard International:** cross-border operators (larger logistics firms)	PLCs are assumed to be CAPEX-rich, with lower cost of capital and able to absorb EV/ HGV CAPEX cycles. They are subject to mandatory financial and ESG disclosure creating climate (and fleet) transition obligations.

eHGV Fleet Readiness Archetypes

The resulting four archetypes are set out below to define readiness of fleets for eHGV adoption.

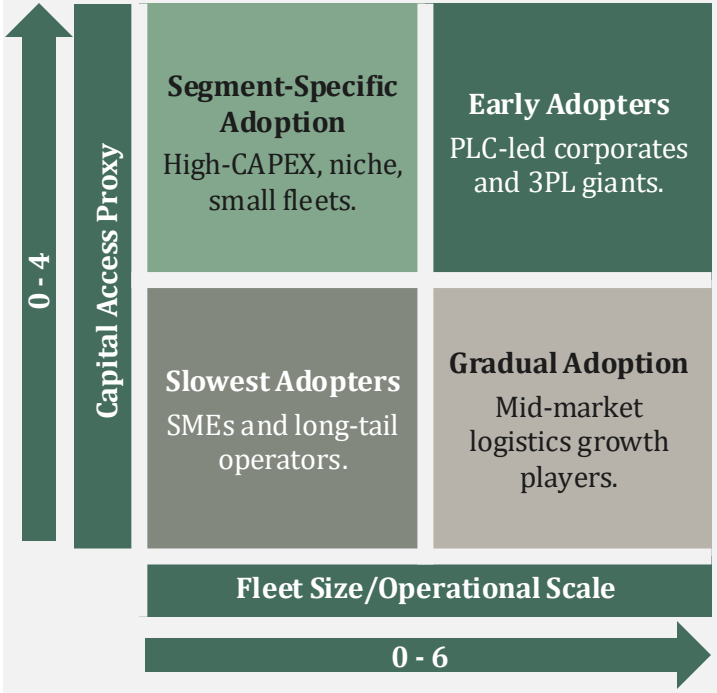


1 *Department for Transport, UK Gov (2025) Traffic Commissioners: goods and public service vehicle operator licence records (VOL)*

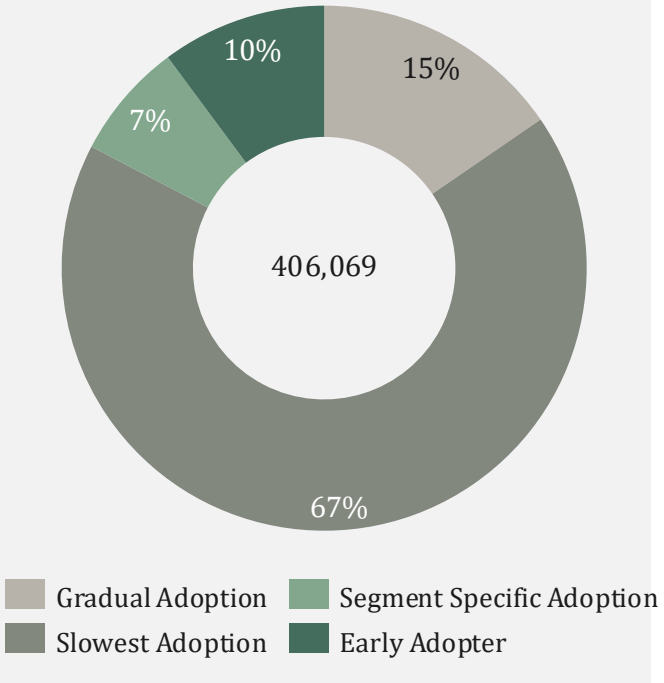
Combining fleet scale with capital access shows that the majority of UK operators cluster in low-readiness segments, while a concentrated leadership group represents the accessible near-term market for volume building

Segmentation of the UK HGV market by eHGV readiness archetypes

Fleet operator eHGV readiness archetypes



Number of HGVs by readiness archetype



ERM analysis of DfT data on goods and public service vehicle operator licence[2] records across the UK, alongside publicly available data on the relevant company.

10% of UK HGVs are operated by Early Adopters, a small number of large fleets, with high access to capital

Fleet archetypes have been developed based on the **scale of the fleet and its operational complexity**, alongside the fleet's access to capital. The archetype development is discussed in more detail on this slide.

Combining the fleet scale and access to capital reveals a **structurally uneven market**. As shown left, the archetypes have been assigned to the UK HGV market and can be used to describe the readiness to adopt eHGVs.

Small-scale fleets with low access to capital are described as the **Slowest Adopters**. This describes the **vast majority of fleet operators (94%)** and includes the **largest proportion of HGVs** in the UK (67%).

Conversely, a **small share of companies (0.2%)** operate large fleets and have high access to capital and are described as **Early Adopters**. The Early Adopters hold a **disproportionate share of total vehicles** (10%), reflecting the concentration of large, influential players.

Large fleets with low access to capital hold 15% of HGVs in the UK and reflect mid-market logistics growth players. The remaining HGVs (7%) belong to high-CAPEX, small fleets, that are likely to be involved in niche segments.

[1] AtkinsRealis (2024) *Understanding the Road Freight Market.*
[2] Department for Transport, UK government (2025) *Traffic Commissioners: goods and public service vehicle operator licence records.*

When accounting for real-world buying behaviours, the segmentation reveals that eHGV sales to 2035 are likely to be from a small number of companies that purchase new vehicles

The smallest fleets and SMEs are expected to purchase from the 2nd hand vehicle market, and therefore will not contribute directly to eHGV uptake by 2035.

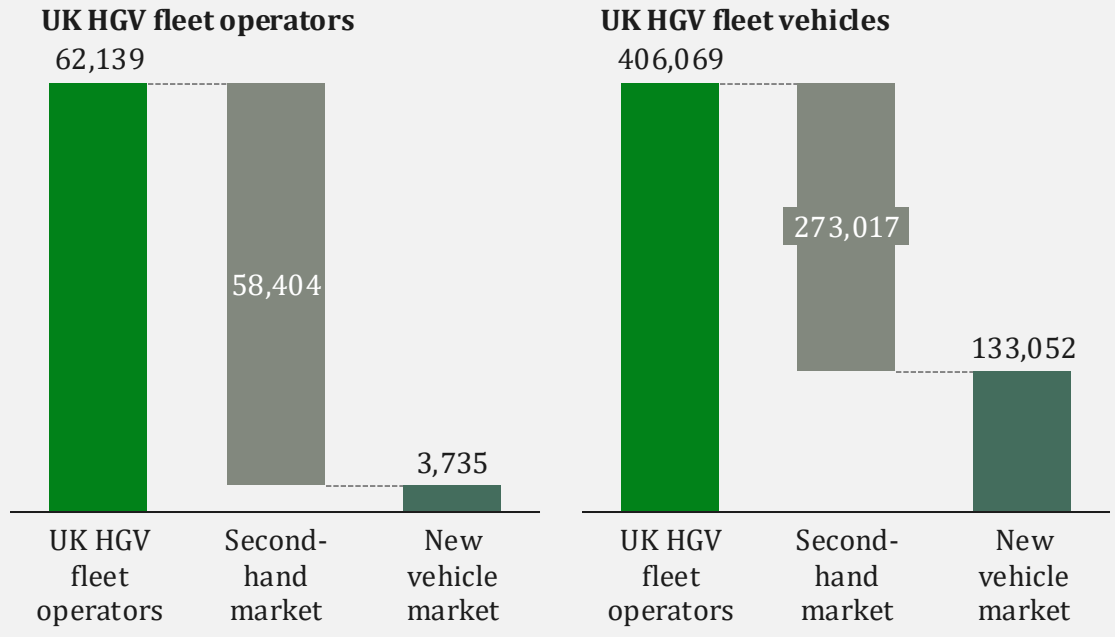
Fleet scale and capital access explain **adoption readiness but not actual buying behaviour**. Purchasing behaviour must be taken into account when estimating the addressable market. In addition to outright purchase of vehicles (new or second hand) a significant proportion of the market purchase vehicles using an operator lease scheme (ca. 33% vehicles[1]) and approximately 23% of HGVs are rented.[1] For simplicity, the scope of this analysis is limited to purchase of vehicles.

Vehicle replacement cycles of 10–14 years imply that **eHGVs sold today would be the first to appear in the second-hand market beyond 2035** (whereby units would be approx. 9 years old). Therefore, only a small fraction of early eHGVs will realistically enter the second-hand market by 2035. **All 2035 eHGV uptake is therefore allocated to new-vehicle sales** and can be assigned across fleet archetypes.

Slowest Adopters (small fleets, SMEs) mainly purchase second-hand HGVs[1] so don't directly impact the new fleet market. However, their reduced access to capital may impact the price they could pay for second-hand eHGVs, which could place significant residual value (RV) risk on new buyers or leasing models under current pricing models.

DfT data shows that 55% of the HGV fleet are with their first owner (only one keeper), with 45% being used vehicles (having 2+ keepers).[2] This reflects the existing diesel fleet, where vehicles have been circulating for decades. This may not be representative of eHGV market dynamics, as **early eHGVs may remain with the original operator longer than ICE counterparts** to minimise uncertainty on residual values, CAPEX recovery, and sunk cost in depot charging.

UK HGV market segmented as purchasing in the new or second-hand vehicle market.



Data sourced from the Department of Transport[3]
Low Scale / Low Capital operators (the "Slowest Adopters" in eHGV readiness archetyping) are excluded from the near-term new-vehicle market because their purchasing is expected to remain second-hand under current vehicle manufacturer pricing and vehicle keepership conditions.

1 AtkinsRealis (2024) *Understanding the road Freight market.*
2 Department for Transport (2025) *Licensed vehicles at the end of the year by body type, number of keepers and year of first registration: Great Britain and United Kingdom.*
3 Department for Transport, UK government (2025) *Traffic Commissioners: goods and public service vehicle operator licence records.*

A renewed set of archetypes and scoring demonstrate the true eHGV demand pattern by excluding fleets that are unlikely to purchase new vehicles

More stringent fleet size and capital access scoring criteria have been applied to fleets that purchase new vehicles to identify those most likely to adopt eHGVs in the near-term

By excluding Low-Scale / Low-Capital operators (Slowest Adopters) the dataset of UK HGV fleet operators now reflects the market that will actually participate in new eHGV purchases before 2035.

A new archetype framework, shown right, was developed to represent the ability of fleets within this market to adopt eHGVs with the current pricing strategy. As for the previous archetyping of the eHGV market, this framework considers scoring criteria based on fleet size/operational scale and a proxy for capital access (described below).

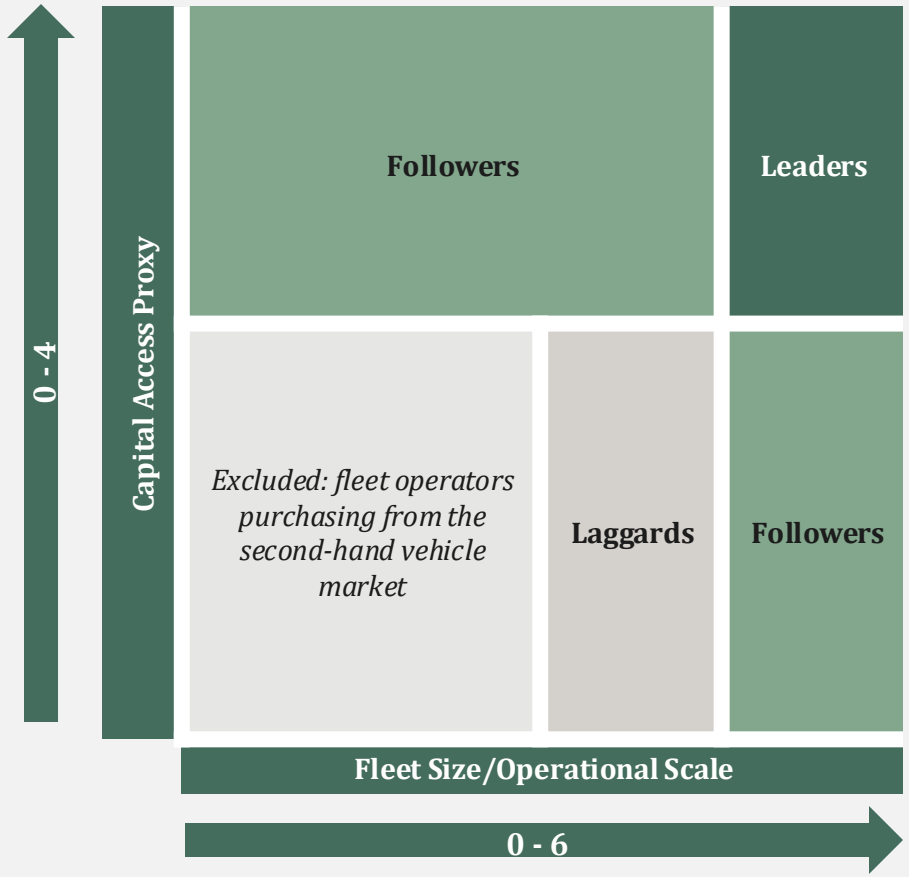
- Fleets with the **highest capital access and largest fleet size/operational scale** are considered **Leaders:** they are most likely to adopt new eHGVs in the near-term.
- Fleets with **either high capital access or largest fleet size/operational scale** are likely to follow the Leader operators, while **laggards** with **lower capital access and moderate – high fleet size/operational scale** are expected to be slower to adopt eHGVs.
- As described above, fleets previously described as "Slowest Adopters" (low capital access and small fleet size/operational scale) are excluded from this archetyping as they are expected to continue to purchase from the second-hand market.

Framework Criteria Scoring

Fleet Size/Operational Scale		Capital Access Proxy	
Fleet Size *Score: 0 – 4*	**Trailer Intensity** *Score: 0 – 2*	**License Type** *Score: 0 – 2*	**PLC** *Score: 0 - 2*

eHGV Fleet Adoption Archetypes

The resulting archetypes are set out below, showing eHGV adoption habits of fleets that are likely to purchase new vehicles.



Illustrative application of the archetypes in the UK to fictitious companies

Leader

A national grocery retailer receiving goods at distribution centres and delivering goods to stores across the UK. Market leading GHG commitments require the business to decarbonise logistics.

Number of employees: 100,000+
Revenue: £10-70bn

Fleet size: ~1,000 vehicles. Actively adopting eHGVs in line with corporate decarbonisation mandate with initial orders being implemented into live operations.

Ownership nature: A mixture of outright purchasing so vehicles can be customised as well as leasing new HGVs for ~4 years at which point the HGV is replaced.

Ownership nature for depot: A mixed ownership model of holding long term leases and outright ownership where HGVs are stored overnight.

Blockers for electrification:
- Optimal network planning for an electrified fleet
- Access to power across the depot portfolio is a limiting factor; demand forecasts based upon overnight charging require substantial grid connection upgrades requiring substantial investment.

Follower

A medium sized 3PL operator who moves freight for clients. A Follower may also have pressure to decarbonise from their clients or supply chain but limited commitments themselves

Number of employees: 15,000+
Revenue: £1bn+

Fleet size: fleet of 600 vehicles. Looking to adopt eHGVs when the TCO is comparable to, or more favourable, than an ICE HGV.

Ownership nature: Lease new ICE HGVs for 4 years at which point the HGV is replaced.

Ownership nature for depot: A mixed ownership model for the depots (long leases and outright ownership) but with a greater network and reliance on ports, multi-modal nodes and lorry parking.

Blockers for electrification:
- The business case for electrification is the TCO and business case. Already with likely thin margins the increased cost of an eHGV may not make sense.
- eHGVs also may require changes to operations due to the need of longer charge times than refuelling times.
- As the routes are not fixed there may be a reliance on the public charging network which is currently not mature enough to support 3PL operations.

Laggard

A small lower volume retailer, with few to no physical stores and a possible reliance on 3PLs

Number of employees: 1,000-2,500
Revenue: £50-500m

Fleet size: fleet of 100 vehicles. A laggard will only adopt eHGVs when the policy requires it.

Ownership nature: Lease new ICE HGVs for 4 years then likely buy them outright to own them for up to another 4-6 years.

Ownership nature for depot: Own a depot headquarters and a few strategic sites with shared depots / industrial sites with other companies.

Blockers for electrification:
- The upfront price of an HGV and the increased leasing costs of an eHGV
- Shared depots may prevent the installation of eHGV chargers which forces a reliance on the public charging network which is still relatively early in its presence along the strategic road network.

The international application of the fleet archetypes describes where early eHGV uptake will occur and where companies face the greatest adoption gap

Leader

Girteka is and asset-based logistics company with their headquarters in Lithuania, they specialise in temperature controlled and high value cargo transportation across the EU

Fleet size in region: 6,000 HGVs across the EU[1]

Evidence of readiness / adoption: Girteka completed a initial test of eHGVs in 2024. Subsequently Girteka have begun working on similar test projects where eHGVs can be implemented into daily operations. [2] This is enabled through strong access to capital as evidenced by their investments from OP Corporate Bank. [3]

Other examples: DHL (UK), Mercado Livre (EU), Amazon (US)

Follower

Okendo is a logistics company with their headquarters in Columbia, specialising in national and international cargo transportation

Fleet size in region: 80 HGVs based in Columbia [4]

Evidence of readiness / adoption: There is no evidence of readiness or adoption of eHGVs. With generally high financial costs already on logistics companies in LATAM the additional costs for a eHGV may prove to be too much of a barrier, until the costs of eHGVs are closer to that of ICE HGVs. [5]

Other examples: Abbey Logistics group LTD (UK), Quehenberger Logistics (EU), D & A Trucking, Inc (US)

Laggard

Massey Motor Freight is a trucking company with their headquarters in Texas, USA, they specialise in intrastate trucking and have a lesser emphasis on interstate

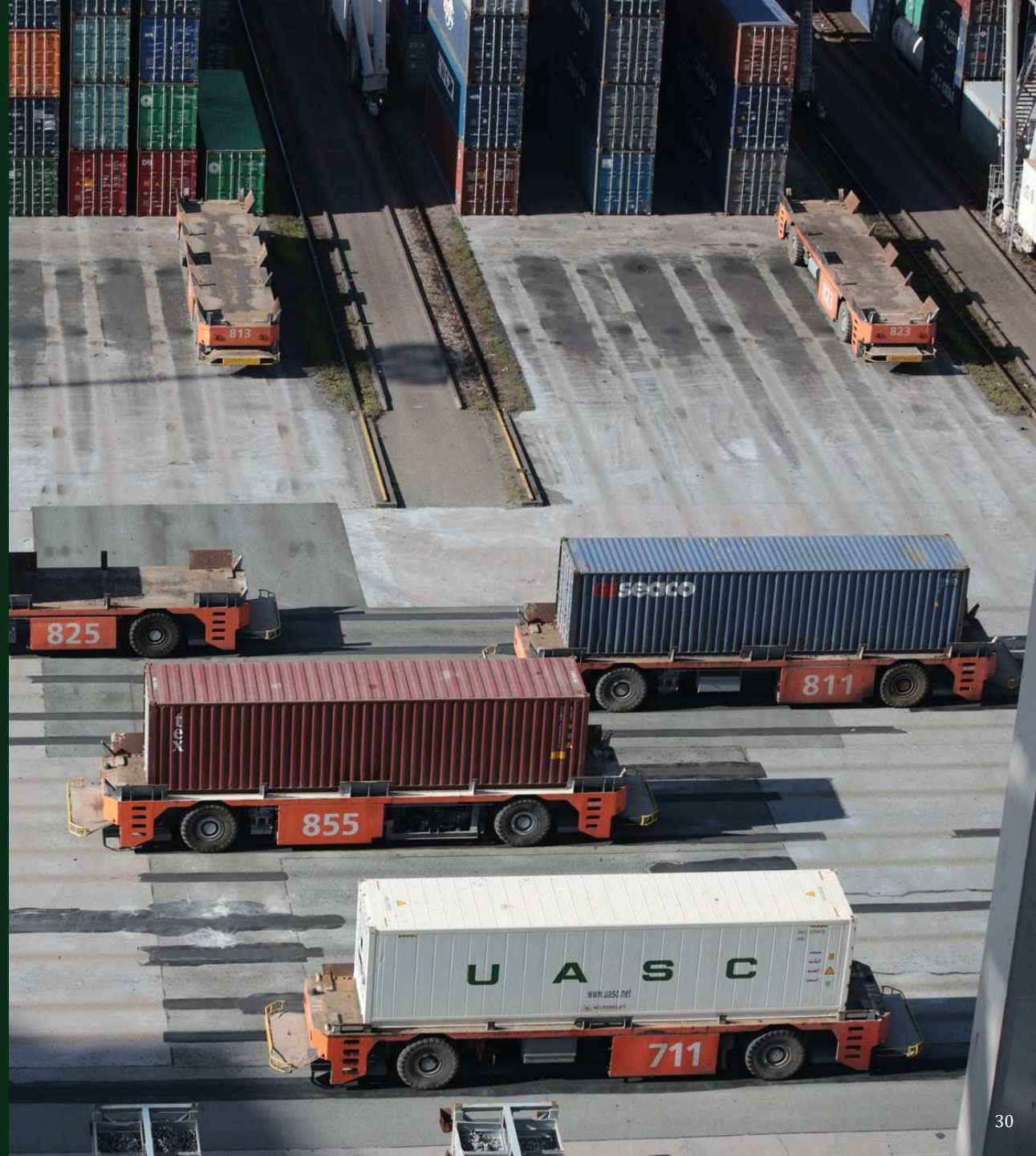
Fleet size in region: 100 HGVs based in Texas, USA[6]

Evidence of readiness / adoption: There is no evidence of readiness of eHGVs. This could be for a number of reasons, including infrastructure availability with 0.2% of Charging stations across the USA and 1.6% of planned charging stations having the capability of charging eHGVs. [7]

Other examples: East Logistics ApS (EU), Lotrans Portes SL (EU), BFS group limited (UK)

[1] Girteka Group (2025) *Our Purpose.*
[2] Girteka Group (2024) *First Test of a Fully Electric Truck & Trailer Unit.*
[3] Girteka Group (2025) *Girteka Group continues investing in growth – secures EUR 173 million financing from OP Corporate Bank.*
[4] Okendo (2025) *servicios Flota Propia y Administrada.*
[5] Americas Market Intelligence (2024) *Exploring 2023-2024 Logistics Trends in Latin America.*
[6] Trucking Database (2026) *Massey Motor Freight LLC*
[7] National Renewable Energy Laboratory (2024) *Electric Medium- and Heavy-Duty Vehicle Charging Infrastructure Attributes and Development.*

Insights: The addressable market for eHGVs

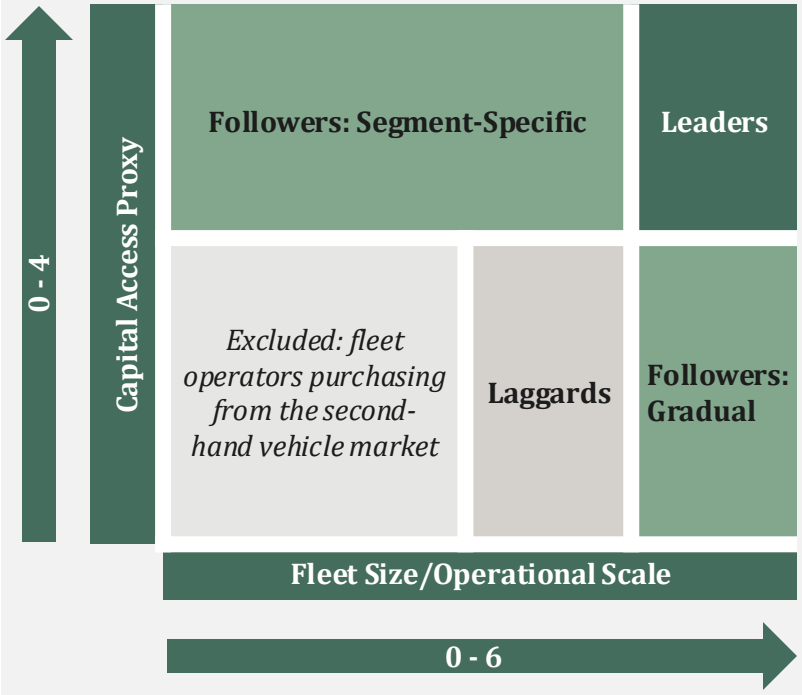


ERM

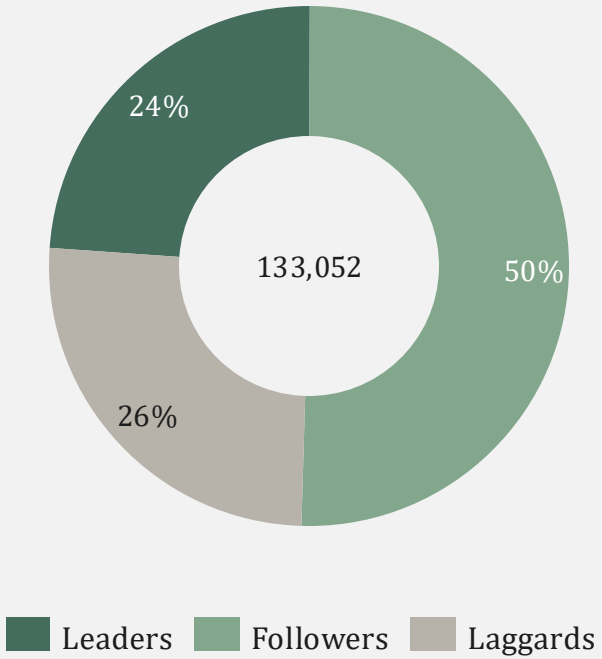
When accounting for real-world buying behaviours, the segmentation reveals how truck manufacturer strategies determine addressable market size rather than the reverse

Segmentation of the UK HGV market purchasing new vehicles by eHGV adoption archetypes

Fleet operator eHGV adoption archetypes



No. vehicles segmented by eHGV adoption archetypes



ERM analysis of DfT data on goods and public service vehicle operator licence (VOL) records (VOL Licence Report) across the UK, alongside publicly available data on the relevant company.

A small number of fleets hold 24% of the market and are expected to be Leaders in the purchase of eHGVs.

eHGV adoption archetypes have been developed for fleets that are expected to purchase new vehicles.

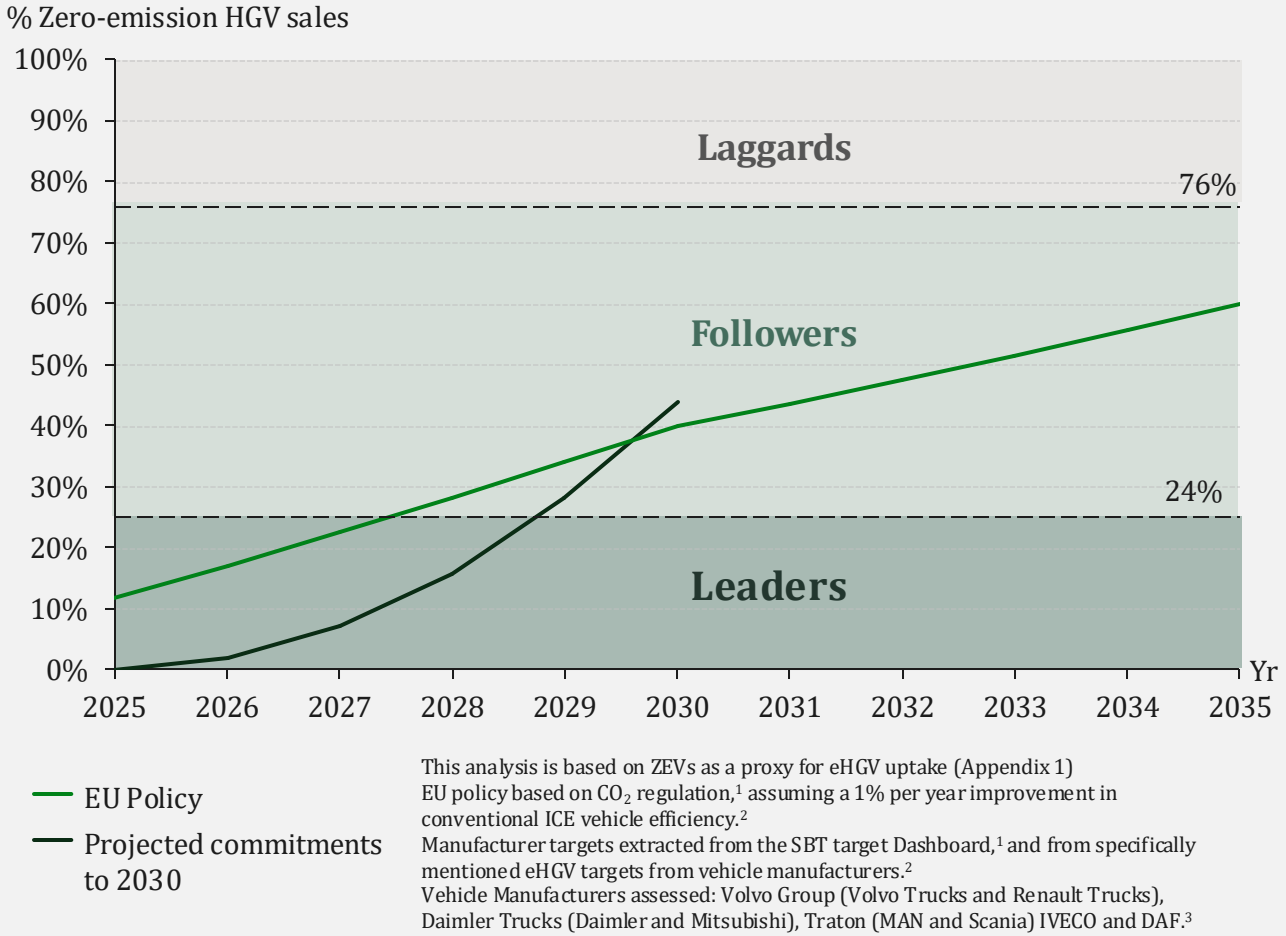
Fleets with the highest capital access and largest fleet size and operational complexity hold **24% of the market** by number of vehicles, but represent only **1%** of the companies purchasing new vehicles. These fleets are expected to be **Leaders** in the eHGV market and are most likely to purchase eHGVs in the near-term with the current pricing strategy, as they have strong access to capital, corporate decarbonisation mandates, and depot control.

Follower fleets are responsible for **most vehicles** (**50%**) and **93% of companies** participating in the new vehicle market. These fleets may be large but with low access to capital, such as mid-market logistics growth players. Alternatively, they may be smaller scale but high access to capital, such as high-CAPEX, niche fleets.

Follower fleets are expected to be slower to purchase eHGVs, but are likely to be more able to adopt eHGVs than the large number of **Laggard fleets** (**6% of companies** in the new vehicle market). These fleets represent **26% of the market** by number of vehicles.

For both the UK and the EU, current pricing strategies limit the addressable market to a small proportion of the fleet leaving volume opportunity for eHGV manufacturer competitors

Comparison between available market segments and zero-emission HGV sales targets by vehicle manufacturers



The customer group that truck manufacturers currently target for ZEVs is too narrow to meet 2030 targets

Given UK-EU market comparability, early ZEV (and eHGV demand) volumes are concentrated in a small leadership cohort who are have strong access to capital, stronger corporate decarbonisation mandates and depot ownership.

This cohort only accounts for approximately 24% of the new HGV fleet demand. Applying this to the EU, if truck manufacturers continue to target this cohort, they will **fall short of 2030 EU policy and their own 2030 sales commitments**, with 60,000-75,000 fewer ZEVs sold in 2030 compared to EU policy and manufacturer targets.[3] When used as a proxy for eHGV sales, this is 54,000 – 67,500 fewer eHGVs sold (See Appendix 1).

To reach 2030 targets, a wider customer base is required, branching out to fleets with lower capital access or decarbonisation targets, where upfront cost and TCO considerations are more significant. This market **represents an opportunity for truck manufacturers willing to target this mass-market segment**, as it represents approximately 50% of potential new HGV sales.

Although previously published eHGV sales commitments appear sufficient to meet long term carbon policy ambitions, manufacturers are placing a larger emphasis on alternative fuels rather than a shift towards eHGVs.[4]

With the EU HDV CO_2 standards tightening in 2030/2035/2040, and the UK consulting on a new HGV CO_2 framework aligned to 2035/2040 end-of-sale milestones, a strategy focused only on the leading cohort risks leaving the mid-market to competitors who can offer better TCO or innovative financing. Without reaffirmed ZEV ambitions, specifically for eHGVs, the resulting supply gap could accelerate competitive entry and increase exposure to compliance penalties or credit purchases.

[1] SBT (2026) *Target Dashboard.*
[2] Department for Transport, UK government (2026) *Consultation on a New Heavy Goods Vehicle CO_2 Emissions Regulatory Framework for the UK*
[3] International Council on Clean Transportation (2025) *ICCT European Heavy Duty Vehicle Market Development Quarterly.*
[4] CleanTechnica (2023) *Scania, Mercedes-Benz, MAN The Only EU Truck Brands On Track To Decarbonise — New Study.*

05. Conclusions

Conclusions

Where is the eHGV market today?

The eHGV market is at an inflection point and is structurally poised to rise very quickly. In 2025, eHGV sales share of all new HGV registrations rose 182% to 4.2% in the EU[1] (with zero-emission HGVs rising 431% to 2.4% in the UK[2]). If the market is to grow to meet EU policy targets in 2035 (approximately 65% of all new eHGV sales), eHGV share must grow at 31.5% compound annual growth rate (CAGR) (2025-2035).

Recognising current truck manufacturer pricing strategies and the HGV market composition, the Leader archetype will underpin the first volume of eHGV sales. These companies are characterised as capital-ready, with corporate decarbonisation mandates and with large depot-anchored fleets. That pattern is expected to continue in the immediate term given the current roll-out pace of public HGV-dedicated charging even despite the positive policy and funding in the UK and EU (e.g. UK Department for Transport Depot Charging Scheme[3] and EU Alternative Fuels Infrastructure Regulation).[4]

While eHGV sales have shown strong sales recently, current truck manufacturer pricing does not yet reflect realistic cost trajectories at scale and is a known barrier for wider uptake. The cost difference between diesel and electric HGVs includes a meaningful 'unknown' component which is made up of genuine transition costs and potentially a margin that can be achieved with Leader customers.

What does this mean for the addressable market for truck manufacturers?

The Minimum Addressable Market (MAM) today, based on current vehicle manufacturer pricing strategies, can be described through the Leader demand segment, which equates to 24% of the new HGV fleet and ca. 1% of operators. **If truck manufacturers continue to only target this cohort, they will fall short of 2030 EU policy and their own 2030 sales commitments, with 60,000-75,000 fewer ZEVs sold in 2030 compared to truck manufacturer targets and EU policy (corresponding to 54,000 – 67,500 eHGVs) .**

The market majority (Followers) adoption remains 'out of reach' and the Laggards archetype; defined by a larger number of small, CAPEX-poor, and price-sensitive operators, will require lower upfront prices to adopt eHGVs and financed solutions.

[1] ACEA (2025) *New commercial vehicle registrations: vans -8.8%, trucks -6.2%, buses +7.5% in 2025*
[2] SMMT (2025) *New HGV market falls but ZEV uptake quadruples*
3 AMP EV (2026) *Depot Charging Scheme*
4 European Comission (2024) *Alternative Fuels Infrastructure Regulation*

Truck manufacturers need a renewed approach which complements lowering prices in order to scale eHGV sales (1/2)

This study has outlined the importance of lowering upfront pricing to accelerate eHGV adoption. The following five recommendations could support a more competitive 'go-to-market' strategy for eHGV truck manufactures:

Recommendations for Operational Change

1

Review and adjust pricing and cost-allocation

Moving a larger share of non-component and transition costs from a small volume of eHGVs toward a broader portfolio provides the ability to recover costs as volumes rise as well as to avoid a self-reinforcing high-price and low-volume loop. This could be achieved by:

1. Pre-announce step-down price points in line with volume staircase to simulate orders and increase confidence in production;
2. Consider setting absolute £/$ margin parity with ICE equivalent models on vehicle sales (not %), to avoid constraining scale; and
3. Transparent, index-linked costs e.g. battery price components could increase procurement confidence and enable Leasing / Finance partners to lower risk premiums (which translate to monthly lease costs)

2

Improved financing and service model evolution

- Develop standardised leasing, battery-leasing and 'as-a-service' propositions to widen access for mid-market fleets with tighter capital constraints;
- Combine financing, maintenance, uptime guarantees and energy services to reduce customer risk and enable earlier adoption; and
- Provide manufacturer-backed residual value support and warranties to address uncertainty on long-term asset value. Clarity on recommended maintenance and operations enable the risk to be contracted and measurable with lenders lowering the risk premium within lease rates

3

Support customers on Infrastructure, Energy, Flex value and Risk

Companies should provide integrated solutions that reduce friction and accelerate adoption: depot-readiness support, energy optimisation (including potential future value streams from flexibility and vehicle-to-grid (V2G)) and risk-mitigation (e.g. battery health certificates, residual value guarantees).

Truck manufacturers need a renewed approach which complements lowering prices in order to scale eHGV sales (2/2)

Recommendations for Operational Change

4

Pursue segment-led Go To Market propositions

Develop a tailored set of propositions that recognise the specific needs (and duty cycles) for different archetypes across Leaders, Followers, and Laggards.

Leaders

Where to focus now: Back-to-base operations with depot charging e.g., municipal/refuse, urban & regional distribution. Evidence shows that 65–75% of rigids and 30–35% of artics can be electrified without relying on a public charging network.[1, 2, 3]

Interventions:

1. **Encourage volume**: Volume-linked price step-downs and absolute margin parity vs ICE to widen immediate addressability. This would give supply-chain visibility, increase conversion of large orders and accelerate platform cost reduction.
2. **Address the energy pain point**: Design a full-service lease with an integrated energy and power access solution (supported through partnerships), bundling vehicle, maintenance, warranty, energy and grid connection support.

Followers

Where to focus now: Urban and regional distribution, drayage, and hub-to-hub routes that rely primarily on depot charging with some public top-ups, where operational efficiency is tight.

Interventions:

1. **Cost predictability and battery risk:** Offer a Battery-as-a-Service (BaaS) + full-service €/km contract to shift CAPEX to OPEX and protect cashflow. Bundle truck, maintenance, tyres, battery rental, and an energy cap-and-collar for both depot and partner public chargers.
2. **Reduce RV risk:** Provide an operator-backed Residual Value Guarantee (RVG) and buy-back floor for 48–72 months with mileage bands tailored to high-utilisation logistics routes. Include a battery State of Health threshold and guarantee.

Laggards

Where to focus now: Mixed and irregular duty cycles, lower annual mileage, and fleets with infrequent purchase cycles. These operators require an ICE-like proposition with predictable lifetime cost. Corridor-based public charging and proven duty-cycle performance are key to drive confidence.

Interventions:

1. Create a lower-spec eHGV with fixed upfront pricing. Offer simplified configurations, smaller battery options suited to lighter cycles
2. Introduce a manufacturer 'micro-lease with ownership pathway' featuring low monthly payments with public charging partnership / discounts included, battery ownership, and a guaranteed buy-out option.

Recommendations for Advocacy to support market evolution

5

Seek coordinated (not dampened) future-fit policy targets

Enable truck manufacturers to ramp up zero emission production capacity in line with policy targets. Seek long-term certainty on HDV policy (e.g. retain the HDV CO_2 standards, fully implement AFIR charging obligations) and long-term funding (e.g. avoid the AFIF funding gap in 2026-2027 and extend national schemes such as the UK Plug-In Truck and UK Depot Charging Scheme).[1] Although some manufacturers argue that complying with Euro 7 pollutant limits could divert up to €500m per truck manufacturer away from zero-emission powertrains[2], independent analysis shows that Euro 7 delivers material NOx and PM health benefits at manageable costs. This makes Euro 7 a complement to CO_2 standards that drive electrification rather than a competing priority. [3]

[1] IEA (2025) *Alternative Fuel Infrastructure Facility (AFIF)*
[2] Freight Carbon Zero (2025) *Euro 7 is a "distraction" says Daimler Truck boss*
[3] ICCT (2023) *Emission reductions and public health benefits from timely Euro 7 standards*

Appendix

Appendix 1: Methodology

Vehicle manufacturers commitment curve

Aim: Develop eHGV uptake curves (% of new sales) to 2035 based on UK HGV targets and the current EU CO_2 regulation compliance, and publicly stated / committed production targets. Comparison of the projected regulatory pathway and the stated eHGV production targets

Methodology

1. Calculate EU uptake scenario based on EU CO_2 regulation targets.[1]
2. Identify market share of HGV manufacturers for the UK and apply to the EU market.[3]
3. Derive eHGV uptake target for each of the manufacturers.[2]
4. Calculate uptake curve for each vehicle manufacturers based on the uptake targets.
5. Weight uptake curves based on the vehicle manufacturers ICE market share to calculate a single representative market uptake curve.

Assumptions

- eHGV uptakes for vehicle manufacturers begin in 2025 starting at 1.4% (Uptake in H1 2025 for HGVs >12t).[3]
- All HGV manufacturers meet their outlined targets.[2]
- List of companies analysed: Volvo Group (Volvo Trucks and Renault Trucks), Daimler Trucks (Daimler and Mitsubishi), Traton (MAN and Scania) IVECO and DAF.
  - This list was selected based on share of HGV market shares [3] in the EU and the UK[2]
- An assumed 375,000 HGVs will be sold in 2030, this was calculated from the average sales numbers from 2023 and 2024.[3]
- For SBTi target setting, the assumption is applied that 90% ZEV sales in 2030 will come from eHGVs (project assumption below). For generic Scope 3 targets, the scope 3 reduction is taken as the same reduction for the use of sold vehicles.

Assumption applicable across the report

This report draws upon analysis of Zero Emissions Vehicles (ZEVs). Where this is the case, it is assumed that eHGVs make up a majority share of these vehicles in the UK and EU market. This analysis applies the estimate that for 2030 ZEV sales, 90% will be e HGV, and the remaining 10% will be other technologies (e.g. hybridization, hydrogen).[5]

Stated eHGV and GHG targets from vehicle manufacturers [2, 4]

Vehicle Brand (and Parent Company)	Stated 2030 eHGV targets	SBTi Scope 3 reduction targets	Ambition based on categories (slide 17)
MAN (Traton)	50%*	-28%	High
Scania (Traton)	30%	-20%	Medium
Volvo (Volvo Group)	50%**	-52%	Medium
Renault (Volvo Group)	50%*	-41%	High
IVECO (Tata Motors)	Not stated	Removed SBTi	Low
DAF (PACCAR)	Not stated	Not stated	Low
Mitsubishi (Daimler)	Not stated	Not stated	Low
Daimler	60%	Not stated	Medium

* Commitment to electric HGVS have been recently (since 2023) restated
** This commitment has been dropped from recent (2025) communications, and so has been ranked as medium ambition.

Data sources

- TRACCS database for **annual mileage** (km/year) for HGVs.[1]
- Climate change Committee (CCC) **Fuel consumption** of HGVs of different powertrains (kWh/km) and (kg/km).[1]
- CCC **Total sales and stock** of different HGV weights.[1]
- Consultation on a New Heavy Goods Vehicle CO_2 Emissions Regulatory Framework for the United Kingdom.[2]
- ICCT European Heavy Duty Vehicle Market Development Quarterly (January – December 2024).[3]

Data quality & limitations

- High-level analysis.
- UK and EU deemed comparable as outlined in the report.

[1] CCC(2025) The Seventh Carbon Budget.
[2] Department for Transport, UK government (2026) *Consultation on a New Heavy Goods Vehicle CO_2 Emissions Regulatory Framework for the United Kingdom.*
[3] International Council on Clean Transportation (2025) *ICCT European Heavy Duty Vehicle Market Development Quarterly*
[4] Science based Targets (2026) *Target Dashboard.*
[5] European Commission (2025) *New communication assesses market readiness of heavy-duty road transport vehicles*

Diesel vs. eHGV Cost Teardown

Aim: Create an estimated cost teardown of both an ICE HGV and an eHGV and show the price differential

Methodology

- Identify through literature review and prior experience a breakdown of the major components of ICE HGV and an eHGV.
- For an ICE HGV, ICCT data is referenced for the teardown cost of components and converted from an estimated % of overall costs to a £ value.[3]
  - The non-components costs for an ICE vehicle is divided further than this study suggested with margins being estimated and extracted.
  - Non component costs are further revised by extracting the margins from the most recent company disclosures. [5, 6]
- Estimate the cost for each eHGV component.[1,2]
  - Prices per unit (glider) and prices per performance (per kW).
  - For the price per performance the estimated size of the component was taken from manufacturer websites and advertised performance metrics.
- The non-component costs for an eHGV are estimated by comparing the component costs calculated above with aggregated and anonymised costs for eHGVs, taken from ERM market procurement exercises. These non-component costs for eHGVs are expected to contain (but not be limited to) the line items below, estimating the split between these costs was not attempted in this report:
  - Marginal assembly costs (e.g. labour, factory electricity, machine maintenance)
  - Investments in eHGV production capacity (e.g. new production lines, upskilling)
  - Company indirect costs
  - Company profit

Assumptions

- E-Truck Virtual Teardown Study[3] was to estimate a per kW cost for motor power and electronics as well as the ICE HGV teardown costs based on the % breakdown of components.
- An aggregated set of estimated margin data from several different manufacturers in Europe was used to estimate the ICE HGV sales margin.
- Company websites were used to find advertised specifications for components which were aggregated then converted to a price.[1, 2]

Data sources

- Vehicle manufacturers' websites used for performance of components.[1, 2]
- ICCT Ricardo.[3]
- ERM internal model for battery costs for HGVs.
- BloombergNEF used for prices of Lithium-ion batteries.[4]
- Global truck manufacturers annual reports.[5, 6]

[1] Scania (2025) *Scania's three electric machines – a closer look.*
[2] Mercedes-Benz (2025) *eActros Charged to change.*
[3] Ricardo, (2021) *E-Truck Virtual Teardown Study.*
[4] BloombergNEF (2025) *Lithium-Ion Battery Pack Prices Fall to $108 Per Kilowatt-Hour, Despite Rising Metal Prices: BloombergNEF.*
[5] Daimler Truck. (2025), 2024 Annual Report.
[6] Traton (2025) 2024 Annual Report.

Market Sizing

Aim Estimate the total market available to vehicle manufacturers in the UK articulated HGV market to 2035 under the existing CAPEX sales model

Methodology

1. Clean Vehicle Operator Licensing (VOL) data and segment registered HGV fleets into bands to indicate the distribution of HGVs across small, medium and large operators and remove companies which are not HGV operators. Establish comparability with EU industry composition. [1]
2. Initial archetyping to account for eHGV readiness and the second-hand market.
   a) Determine four operator archetypes to describe the current and future adoption.
      i. **Early adopters** – Large companies with large HGV fleets capable of absorbing the increased CAPEX of an eHGV and accumulating the benefits of a lower OPEX and GHG emissions.
      ii. Gradual Adopters - Large fleets with tighter margins who will adopt eHGVs when the total cost of ownership makes financial sense.
      iii. Segment Specific Adoption – Small fleets but with larger access to CAPEX.
      iv. Slowest Adoption – Dominated by companies which only buy HGVs from the second-hand market, those in this archetype have small fleets and little access to capital, and will only transition to eHGVs when they become available after their first ownership cycle.
   b) Remove the 2nd hand-market from the archetyping analysis- and recategorize the remaining HGV fleets based on a stricter categorisation.
      i. Leaders - These are the fleets expected to make the change to eHGVs by 2030 and is the main market for manufacturers currently.
      ii. Followers – These fleets will likely have some adoption by 2030 but this is more scenario dependant.
      iii. Laggards – These fleets are unlikely to have eHGV adoption by 2030 and will likely buy eHGVs when policy prevents buying ICE HGVs.
3. Identify the addressable market based upon current company pricing strategies.
4. Perform checks to correct outlier companies, these are companies which may not fit into the leaders segment but have purchased eHGVs regardless, they have been manually moved to the leaders segment, examples include: Royal mail, Warburtons, Travis Perkins and Ocado.

Assumptions

- Access to eHGVs has been simplified to assume an end user adopting an eHGV equates to a new sale. The breakdown of outright purchase versus leasing was not in scope for this study.
- The minimum addressable market represents the market in scope for acquiring new eHGVs
- Slowest Adoption fleets make up the second-hand vehicle market.
- Logistics companies are focused on TCO and will adopt eHGVs when the business case makes sense.
- Archetypes can be applied to market structure and companies outside of the UK.

Data sources

- VOL License data for the UK [2]

[1] International Council on Clean Transportation (2025) *ICCT European Heavy Duty Vehicle Market Development Quarterly.*
[2] Department for Transport, UK Gov (2025) *Traffic Commissioners: goods and public service vehicle operator licence records (VOL)*

Appendix 2: Citation list

Citations

Science based Targets Initiative (2026). *Target Dashboard.* Available at https://sciencebasedtargets.org/target-dashboard (Accessed: 02 Feb 2026)

Department for Transport, UK government (2026). *Consultation on a New Heavy Goods Vehicle CO_2 Emissions Regulatory Framework for the United Kingdom*. Available at: https://assets.publishing.service.gov.uk/media/6983430d13622473b51ca9db/new_hgv_co2_emissions_regulatory_framework_for_UK.pdf (Accessed: 09 Feb 2026)

Ricardo, (2021). *E-Truck Virtual Teardown Study. International Council on Clean Transportation.* Available at: https://theicct.org/wp-content/uploads/2022/01/Final-Report-eTruck-Virtual-Teardown-Public-Version.pdf (Accessed: 18 Feb 2026)

Department for Transport, UK government (2025). *Traffic Commissioners: goods and public service vehicle operator licence records*. Available at: https://www.data.gov.uk/dataset/2a67d1ee-8f1b-43a3-8bc6-e8772d162a3c/traffic-commissioners-goods-and-public-service-vehicle-operator-licence-records (Accessed: 02 Feb 2026)

AtkinsRealis (2024). *Understanding the Road Freight Market*. Department for Transport, UK government. Available at: https://www.gov.uk/government/publications/understanding-the-road-freight-market (Accessed: 11 Feb 2026)

Z. Wang, S. Acha, M. Bird, N. Sunny, Marc E.J. Stettler, B. Wu, N. Shah (2024). *A total cost of ownership analysis of zero emission powertrain solutions for the heavy goods vehicle sector*, Journal of Cleaner Production, Volume 434

Scania (2025*). Scania's three electric machines – a closer look*, Available at: https://www.scania.com/group/en/home/electrification/e-mobility-hub/scanias-three-electric-machines-a-closer-look.html (Accessed: 02 Feb 2026)

Mercedes-Benz (2025). *eActros Charged to change*, Available at: https://www.mercedes-benz-trucks.com/gb/en/trucks/eactros.html#tab-module-bc98e8de66-item-eaafc04c5b-tab (Accessed: 02 Feb 2026)

Europa (2025). *Lorries and their load capacity by permissible maximum gross weight*, Available at: https://ec.europa.eu/eurostat/databrowser/view/road_eqs_lorton__custom_20131968/default/table (Accessed: 16 Feb 2026)

Europa (2025). *Annual detailed enterprise statistics for services (NACE Rev. 2 H-N and S95) (2005-2020),* Available at: https://ec.europa.eu/eurostat/databrowser/view/sbs_na_1a_se_r2__custom_20132307/default/table (Accessed: 16 Feb 2026)

Eurostat (2024). *Micro & small businesses make up 99% of enterprises in the EU*. Available at: https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20241025-1 (Accessed: 17 Feb 2026)

Renault Trucks (2024). *XPO Logistics strengthens its decarbonised fleet with an order for 165 Renault Trucks electric trucks, including 105 Renault Trucks E-Tech T 44t*. Available at: https://www.renault-trucks.com/en/newsroom/news/xpo-165-renault-trucks (Accessed: 18 Feb 2026)

Daimler Truck (2025). *Major contract for Mercedes-Benz Trucks: Amazon orders more than 200 eActros 600.* Available at: https://www.daimlertruck.com/en/newsroom/pressrelease/major-contract-for-mercedes-benz-trucks-amazon-orders-more-than-200-eactros-600-52955495 (Accessed: 18 Feb 2026)

U.S. Small Business Administration Office of Advocacy (2026), *Frequently Asked Questions About Small Business*. Available at: https://advocacy.sba.gov/2026/02/03/frequently-asked-questions-about-small-business-2026 (Accessed: 17 Feb 2026)

IEA (2025). *Trends in heavy-duty electric vehicles*, Available at: https://www.iea.org/reports/global-ev-outlook-2025/trends-in-heavy-duty-electric-vehicles (Accessed: 17 Feb 2026)

Daimler Truck (2025). *2024 Annual Report*. Available athttps://www.daimlertruck.com/fileadmin/user_upload/documents/investors/reports/annual-reports/2024/daimler-truck-ir-annual-report-2024-incl-combined-management-report-dth-ag.pdf (Accessed: 05 Mar 2026)

Citations

Traton (2025). *2024 Annual Report*. Available at: https://annualreport.traton.com/2024/en/index.html (Accessed: 05 Mar 2026)

Scania (2025). *Annual and Sustainability Report 2024.* Available at: https://www.scania.com/content/dam/group/investor-relations/annual-review/download-full-report/scania-annual-and-sustainability-report-2024.pdf (Accessed: 05 Mar 2026)

Department for Business & Trade (2024*). Business population estimates for the UK and regions 2024: statistical release.* Available at: https://www.gov.uk/government/statistics/business-population-estimates-2024/business-population-estimates-for-the-uk-and-regions-2024-statistical-release (Accessed: 17 Feb 2026)

Financial Times (2026). *End of electric vehicle euphoria triggers $65bn hit for carmakers.* Available at: https://www.ft.com/content/2daa41c3-3721-46d1-8954-7c43d5149995 (Accessed: 17 Feb 2026)

IEA (2025). *Global EV Outlook 2025 Expanding sales in diverse markets.* Available at: https://iea.blob.core.windows.net/assets/c3f7fb7b-4205-4fd6-a20e-afe14a9aa252/GlobalEVOutlook2025.pdf (Accessed: 17 Feb 2026)

EPA (2025). *EPA Announces Action to Implement POTUS's Termination of -Harris Electric Vehicle Mandate.* Available at: https://www.epa.gov/newsreleases/epa-announces-action-implement-potuss-termination--harris-electric-vehicle (Accessed: 17 Feb 2026)

IFA (2025). *EU Green Freight Corridors: The Legislation, Funding and Infrastructure Deadlines Shaping 2025-2030 Logistics.* Available at: https://ifa-forwarding.net/blog/green-logistics/eu-launches-green-freight-corridors-connecting-major-ports/ (Accessed: 17 Feb 2026)

Bloomberg (2023). *China's Batteries Are Now Cheap Enough to Power Huge Shifts*. Available at: https://www.bloomberg.com/news/newsletters/2024-07-09/china-s-batteries-are-now-cheap-enough-to-power-huge-shifts (Accessed: 20 Feb 2026)

Climate Change Committee (2025). *The Seventh Carbon Budget*. Available at: https://www.theccc.org.uk/publication/the-seventh-carbon-budget/ (Accessed: 09 Feb 206)

Department for Transport. (2025). *Licensed vehicles at the end of the year by body type, number of keepers and year of first registration: Great Britain and United Kingdom*. Available at: https://www.gov.uk/government/statistical-data-sets/vehicle-licensing-statistics-data-tables (Accessed: 18 Feb 2026)

Bloomberg NEF (2025). *Lithium-Ion Battery Pack Prices Fall to $108 Per Kilowatt-Hour, Despite Rising Metal Prices: BloombergNEF.* Available at: https://about.bnef.com/insights/clean-transport/lithium-ion-battery-pack-prices-fall-to-108-per-kilowatt-hour-despite-rising-metal-prices-bloombergnef/ (Accessed: 18 Feb 2026)

Logclear (2025) *State of the Industry Report: Trucking Statistics 2025 https://logclear.com/research/state-of-the-trucking-industry (Accessed 25 Feb 2026)*

IEA (2025) Alternative Fuel Infrastructure Facility (AFIF). Available at: https://www.iea.org/policies/27827-alternative-fuel-infrastructure-facility-afif (Accessed 25 Feb 2026)

European Clean Trucking Alliance (2024). *Study: 15 recommendations for the financing of zero-emission trucks. Available at: https://clean-trucking.eu/publications/study-financing-of-zero-emission-trucks/ (Accessed: 20 Feb 2026)*

M. Toelke and A.C. McKinnon (2021). *Decarbonizing the operations of small and medium-sized road carriers in Europe: An analysis of their perspectives, motives, and challenges*. Available at: https://smart-freight-centre-media.s3.amazonaws.com/documents/05_Decarbonizing_the_operations_of_small_and_medium-sized_road_carriers_in_Europe.pdf (Accessed: 20 Feb 2026)

Daimler Truck (2026). *Daimler Truck Holding AG: Investor Relations Release.* Available at: https://www.daimlertruck.com/fileadmin/user_upload/documents/investors/capital-market-releases/financial-news/2026/20260116_Investor_Relations_Release_Daimler_Truck_Unit_Sales_2025.pdf (Accessed: 23 Feb 2026)

Citations

Girteka Group (2025). *Our Purpose.* Available at: https://www.girtekagroup.com/about-the-girteka-group/values-and-purpose/our-purpose/ (Accessed: 23 Feb 2026)

Girteka Group (2024). *First Test of a Fully Electric Truck & Trailer Unit.* Available at: https://www.girteka.eu/first-test-of-a-fully-electric-truck-trailer-unit/ (Accessed: 23 Feb 2026)

Okendo (2025). *servicios Flota Propia y Administrada.* Available at: https://okendo.com.co/categoria-servicios/flota-propia-y-administrada/ (Accessed: 24 Feb 2026)

Americas Market Intelligence (2024). *Exploring 2023-2024 Logistics Trends in Latin America.* Available at: https://americasmi.com/2023-2024-logistics-trends-data-research-latin-america-brazil-mexico-colombia-chile/ (Accessed: 24 Feb 2026)

Girteka Group (2025). *Girteka Group continues investing in growth – secures EUR 173 million financing from OP Corporate Bank*. Available at: https://www.girtekagroup.com/girteka-group-continues-investing-in-growth-secures-eur-173-million-financing-from-op-corporate-bank/ (Accessed: 24 Feb 2026)

Federal Motor Carrier Safety Administration (2026). *Company Snapshot.* Available at: https://safer.fmcsa.dot.gov/query.asp?searchtype=ANY&query_type=queryCarrierSnapshot&query_param=USDOT&original_query_param=NAME&query_string=1170444&original_query_string=A%20QUALITY%20BUSHOG%20SERVICES%20INC (Accessed: 24 Feb 2026)

National Renewable Energy Laboratory (2024). *Electric Medium- and Heavy-Duty Vehicle Charging Infrastructure Attributes and Development*. Available at: https://docs.nrel.gov/docs/fy25osti/91571.pdf (Accessed: 24 Feb 2026)

CleanTechnica (2023). *Scania, Mercedes-Benz, MAN The Only EU Truck Brands On Track To Decarbonise — New Study.* Available at: https://cleantechnica.com/2023/06/19/scania-mercedes-benz-man-the-only-eu-truck-brands-on-track-to-decarbonise-new-study/ (Accessed: 24 Feb 2026)

European Commission (2024). *CO_2 emission standards for heavy-duty vehicles.* Available at: https://theicct.org/publication/revised-co2-standards-hdvs-eu-may24/?gad_source=1&gad_campaignid=22639629046&gclid=EAIaIQobChMI97zytM7ykgMVhGdBAh0GqTu-EAAYASAAEgKAPPD_BwE (Accessed: 24 Feb 2026).

International Council on Clean Transportation (ICCT) (2024). *CO_2 emissions from trucks in the European Union: An analysis of the 2021 reporting period.* Available at: https://theicct.org/publication/hdv-co2-emissions-eu-2020-reporting-jul23/?gad_source=1&gad_campaignid=22639629046&gclid=EAIaIQobChMIoK26587ykgMVtD4GAB2D_Af3EAAYASAAEgInrfD_BwE (Accessed: 24 Feb 2026).

ICCT (2023) *Emission reductions and public health benefits from timely Euro 7 standards*. Available at: https://theicct.org/wp-content/uploads/2023/09/Euro-7-premature-deaths.pdf (Accessed 25 Feb 2026)

Electrive (2026). *Year-end surge: electric trucks outsell diesel for the first time in China.* Available at: https://www.electrive.com/2026/01/23/year-end-surge-electric-trucks-outsell-diesel-for-the-first-time-in-china/ (Accessed: 24 Feb 2026).

Sustainable Truck & Van (2024). *Renault Trucks sold 1,628 electric vehicles in Europe in 2024.* Available at: https://www.sustainabletruckvan.com/renault-trucks-electric-vehicles-results-2024/ (Accessed: 24 Feb 2026).

Department for Transport, UK Government (2026). *Consultation on a new heavy goods vehicle CO_2 emissions regulatory framework for the United Kingdom.* Available at: https://www.gov.uk/government/consultations/new-hgv-co2-emissions-regulatory-framework-for-the-uk (Accessed: 24 Feb 2026).

International Council on Clean Transportation (2025). *ICCT European heavy duty vehicle market development quarterly.* Available at: https://theicct.org/publication/r2z-eu-hdv-market-development-quarterly-january-september-2025-dec25/ (Accessed: 24 Feb 2026).

ACEA (2025) *New commercial vehicle registrations: vans -8.8%, trucks -6.2%, buses +7.5% in 2025.* Available at: https://www.acea.auto/cv-registrations/new-commercial-vehicle-registrations-vans-8-8-trucks-6-2-buses-7-5-in-2025/ (Accessed 25 Feb 2026)

Citations

SMMT (2025) *New HGV market falls but ZEV uptake quadruples*. Available at: https://www.smmt.co.uk/new-hgv-market-falls-but-zev-uptake-quadruples/ (Accessed 25 Feb 2026)

European Commission (2024) *Alternative Fuels Infrastructure Regulation.* Available At: https://transport.ec.europa.eu/transport-themes/clean-transport/alternative-fuels-sustainable-mobility-europe/alternative-fuels-infrastructure_en (Accessed 25 Feb 2026)

European Commission (2025) *New communication assesses market readiness of heavy-duty road transport vehicles.* Available at: *https://transport.ec.europa.eu/news-events/news/new-communication-assesses-market-readiness-heavy-duty-road-transport-vehicles-2025-06-19_en* (Accessed 25 Feb 2026)

S&P Global (2025) *Zero-emission buses reshape EU bus production.* Available at: https://www.spglobal.com/automotive-insights/en/blogs/2025/09/zero-emission-buses-reshape-eu-bus-production (Accessed 25 Feb 2026)

Volvo Group (2025) *Volvo Group Report on the third quarter 2025.* Available at: https://www.volvogroup.com/content/dam/volvo-group/markets/master/news/2025/oct/5233247-volvo-group---report-on-the-third-quarter-2025.pdf (Accessed 25 Feb 2026)

Trucking database (2026) *Massey Motor Freight LLC.* Available at: https://truckingdatabase.com/companies/dot/3516769 (Accessed 26 Feb 2026)

AMP EV (2026) *Depot Charging Scheme.* Available at: https://ampev.co.uk/depot-charging-scheme/ (Accessed 26 Feb 2026)

Transport & Environment (2023) HGVs on the road to net zero. Available at: https://www.transportenvironment.org/uploads/files/2023_05_TE_study_summary_HGVs_road_net_zero.pdf (Accessed 25 Feb 2026)

Transport & Environment and Element Energy (2023) Why Great Britain's long-distance, heavy-duty HGVs can go battery electric – and what needs to be done to achieve this. Available at: *https://www.transportenvironment.org/uploads/files/20230425_TE_BEHGV_public_charging_report.pdf* (Accessed 25 Feb 2026)

Transport & Environment and Element Energy (2022) Battery electric HGV adoption in the UK: barriers and opportunities. Available at: https://www.erm.com/contentassets/553cd40a6def42b196e32e4d70e149a1/phase-one-report-use-cases-that-dont-require-public-charging.pdf (Accessed 25 Feb 2026)

Freight Caron Zero (2025) Euro 7 is a "distraction" says Daimler Truck boss. Available at: https://motortransport.co.uk/freightcarbonzero/euro-7-is-a-distraction-says-daimler-truck-boss/88931.article (Accessed 25 Feb 2026)

EPA (2026) Final Rule: Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standa rds Under the Clean Air Act. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-rescission-greenhouse-gas-endangerment#:~:text=Additional%20Resources-,Rule%20Summary,Documents (Accessed 25 Feb 2026)

Powermag (2025) *Getting the Grid and Charging Infrastructure Ready for Heavy-Duty Electric Trucks.* Available at: https://www.powermag.com/getting-the-grid-and-charging-infrastructure-ready-for-heavy-duty-electric-trucks/ (Accessed 25 Feb 2026)

Appendix 3: Glossary of terms

Glossary of terms

Acronym	Full name	Description
HGV	Heavy Goods Vehicle	Vehicles constructed for transporting goods with a gross weight over 3.5 tonnes.
eHGV	Electric Heavy Goods Vehicle	Electric-powered heavy goods vehicles.
HDV	Heavy-Duty Vehicle	A general category of large vehicles designed for freight transport, typically including HGVs and other high-gross-weight vehicles.
EV	Electric Vehicle	A vehicle powered wholly or partly by electricity stored in batteries and driven by electric motors.
NEV	New Energy Vehicle	A collective term for low-emission vehicles, including Battery Electric Vehicles (BEVs), Plug-in Hybrid Electric Vehicles (PHEVs), and Extended-Range Electric Vehicles (EREVs).
BEV	Battery Electric Vehicle	A fully electric vehicle powered exclusively by onboard batteries, with no internal combustion engine.
PHEV	Plug-in Hybrid Electric Vehicle	A vehicle that combines an internal combustion engine with an electric motor and rechargeable battery.
EREV	Extended-Range Electric Vehicle	An electric vehicle primarily driven by an electric motor, with a small combustion engine used only to extend driving range.
ICE	Internal Combustion Engine	A conventional engine that generates power through the combustion of fossil fuels such as petrol or diesel.
ZEV	Zero-Emission Vehicle	A vehicle that produces no tailpipe emissions during operation.
CO_2	Carbon Dioxide	A greenhouse gas emitted through the combustion of fossil fuels and other industrial activities.
SBT	Science-Based Target	A greenhouse gas emissions reduction target aligned with climate science and the goals of the Paris Agreement.
MAM	Minimum Addressable Market	The smallest realistic market size that a product or service can serve under existing constraints.
CAPEX	Capital Expenditure	Upfront investment costs for long-term assets such as vehicles, infrastructure, or equipment.
OPEX	Operational Expenditure	Ongoing costs associated with day-to-day operations, including maintenance, fuel, and servicing.
TCO	Total Cost of Ownership	The total cost of owning and operating an asset over its lifetime, including both CAPEX and OPEX.
RV	Residual Value	The estimated value of a vehicle or asset at the end of its useful life or lease term.
V2G	Vehicle-to-Grid	Technology that enables electric vehicles to export stored electricity back to the power grid.
CAGR	Compound Annual Growth Rate	The average annual growth rate of a value over a specified period of time.
PLC	Public Listed Company	A company whose shares are traded on a public stock exchange.
IEA	International Energy Agency	An intergovernmental organisation providing analysis and guidance on global energy policy.
EPA	Environmental Protection Agency	A governmental body responsible for environmental protection and regulation.
ICCT	International Council on Clean Transportation	An independent research organisation focused on clean transportation policy and emissions reduction.
MCS	Megawatt Charging System	A high-power charging standard designed for rapid charging of heavy-duty electric vehicles.
VOL	Vehicle Operating Licence database	A UK dataset describing the Traffic Commissioners goods and public service vehicle operator licence records

Thank you

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