

Heavy Duty Trucks - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-06-01 | 150 pages | Mordor Intelligence

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Report description:

Heavy Duty Trucks Market Analysis

The heavy duty trucks market is valued at USD 232.57 billion in 2025 and is forecast to reach USD 301.23 billion by 2030, registering a 5.31% CAGR. Demand follows a measured growth path as fleets weigh immediate compliance with tightening emission rules against long-term electrification plans. Stricter global regulations, unprecedented infrastructure spending, and rapid advances in battery and hydrogen technologies work together to reshape purchase decisions and capital-allocation strategies. Established manufacturers invest in new platforms while software specialists and battery suppliers enter the ecosystem, creating a competitive environment where control of operating system architecture matters as much as engine design. Policy-linked pre-buy cycles boost near-term diesel volumes, yet every regional outlook incorporates a rapid pivot toward zero-emission vehicles as cost parity milestones draw closer. Scale advantages in Asia Pacific, government procurement incentives in North America, and progressive timelines in Europe combine to keep the market's growth outlook resilient despite cyclical freight softness in some corridors.

Global Heavy Duty Trucks Market Trends and Insights

Expanding E-commerce Freight Volumes

E-commerce freight expansion drives heavy-duty truck demand through last-mile delivery optimization and regional distribution network densification. The surge in online retail creates demand for medium-duty electric trucks in urban environments, where

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zero-emission mandates increasingly restrict diesel operations. Fleet operators prioritize vehicles capable of multiple daily delivery cycles with predictable routes, making battery-electric trucks economically viable despite higher upfront costs. This shift particularly benefits Class 7 segments, where operational patterns align with current battery technology limitations. The trend accelerates as municipalities implement zero-emission zones and consumers demand faster, more sustainable delivery options. Amazon's commitment to 100,000 electric delivery vehicles and UPS's adoption of renewable natural gas trucks demonstrate how logistics giants reshape procurement strategies.

Strict Global Emission Mandates Driving Fleet Renewal

Regulatory frameworks across major markets create unprecedented pressure for fleet electrification, with the EPA's Phase 3 standards requiring 50% of vocational vehicles to be zero-emission by 2032. The EU's revised CO2 standards mandate 90% emission reductions by 2040, while California's Advanced Clean Fleet rule requires 100% zero-emission vehicle sales starting in 2036. These regulations create artificial demand spikes as fleets engage in pre-buy strategies to avoid compliance costs, with analysts predicting significant order increases in 2025-2026 ahead of 2027 implementation. The regulatory cascade effect extends beyond initial markets, as export-dependent manufacturers standardize production around the most stringent requirements. China's rapid adoption of zero-emission heavy-duty vehicles, with over 80% of global electric truck sales, demonstrates how policy can accelerate market transformation.

High Upfront Cost of Zero-emission Heavy Trucks

Zero-emission trucks carry acquisition costs 2-3 times higher than diesel equivalents. Battery pack costs, representing 30-40% of vehicle price, remain the primary cost driver despite declining lithium-ion prices. Fleet operators face additional infrastructure investments for charging equipment and grid upgrades, with estimates suggesting USD 30 billion needed for U.S. charging infrastructure by 2035. Total cost of ownership calculations favor electric trucks only in specific duty cycles with high utilization and predictable routes, limiting adoption to specialized applications. The cost differential impacts small and medium-sized fleets lacking capital for upfront investments, potentially accelerating industry consolidation as larger operators gain competitive advantages through early electrification.

Other drivers and restraints analyzed in the detailed report include:

Infrastructure Stimulus Packages / Hydrogen Corridor Pilot Programs in Asia Pacific / Volatile Diesel Price Environment Impacting Purchase Cycles /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

More than 15-ton trucks commanded 61.40% market share in 2024, reflecting the dominance of long-haul freight operations and construction applications requiring maximum payload capacity. However, the 10-15-ton segment exhibits the fastest growth at 9.50% CAGR through 2030, driven by urban delivery optimization and medium-duty electrification adoption. This growth pattern indicates fleet operators' strategic shift toward right-sizing vehicles for specific applications rather than defaulting to maximum capacity options.

The heavier segment's market leadership stems from regulatory advantages in payload-per-trip economics and established infrastructure designed for maximum gross vehicle weights. Conversely, lighter heavy trucks benefit from lower electrification costs and urban access privileges as cities implement zero-emission zones. Battery weight penalties affect heavier trucks disproportionately, making the 10-15-ton segment more attractive for early electric adoption where payload sensitivity matters

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less than operational flexibility.

Class 8 vehicles maintain overwhelming market leadership with 70.80% share in 2024, reflecting their essential role in long-haul freight and heavy construction applications. Yet Class 7 trucks demonstrate the strongest growth trajectory at 8.30% CAGR through 2030, positioning themselves as the optimal compromise between payload capacity and electrification economics. This divergence highlights how regulatory pressures and technological constraints reshape traditional size preferences.

Class 8 dominance reflects established supply chains optimized for maximum efficiency in long-distance freight movement, where payload maximization directly impacts per-mile economics. However, Class 7 growth acceleration stems from urban delivery applications and regional distribution networks where operational flexibility outweighs maximum capacity requirements. The segment benefits from lower battery costs for electrification while maintaining sufficient payload for most commercial applications. Classes 5 and 6 serve specialized niches in municipal and utility applications, where predictable duty cycles enable early electric adoption despite higher per-unit costs.

The Heavy Duty Trucks Market Report is Segmented by Tonnage Type (10 To 15 T and More Than 15 T), Class (Class 7 and Class 8), Propulsion Type (Diesel, Battery-Electric, and More), Application (Construction and Mining, and More), Truck Body Type (Tractor-Trailer, and More), Sales Channel (OEM, and More), and Geography (North America, and More). The Market Forecasts are Provided in Terms of Value (USD) and Volume (Units).

Geography Analysis

Asia Pacific commanded 47.21% of 2024 revenue and is forecast to expand at 9.30% CAGR through 2030, underpinned by China's policy-backed electric-truck ecosystem. Chinese OEMs deliver scale economies that push purchase prices below global averages, and domestic battery suppliers supply LFP chemistries that reduce material cost volatility. India's freight corridors gain government backing through the Bharatmala program and hydrogen pilots, channeling demand into battery and fuel-cell platforms. Japan leads in fuel-cell systems, with demonstrations achieving 30% lower tank-to-wheel energy loss than earlier generations. South-East Asian nations leverage free-trade agreements to establish final-assembly hubs feeding ASEAN demand, while Australia's mining electrification trials validate mega-pack battery systems in extreme environments.

North America ranks second in value, driven by a freight-intensive economy and a well-established Class 8 culture. EPA Phase 3 standards, effective in 2027, spur pre-buy activity beginning in 2025, temporarily lifting diesel output before an accelerated switch to zero-emission models. Manufacturing footprints stretch from the Great Lakes to Mexico's Nuevo Leon cluster, reflecting supply-chain re-shoring and trade-agreement benefits. The heavy duty trucks market size tied to public-infrastructure contracts spikes as the IJA funds 25,000 km of highway resurfacing, indirectly lifting replacement demand for dump and concrete-mixer bodies. Canada promotes near-port electrification through CleanBC and CEPA grants, while Mexico targets export-grade compliance to secure U.S. market access. Grid-upgrade projects in California and Texas allocate capacity for multi-megawatt depot chargers, anchoring early fuel-cell truck deployments along I-10 and I-5 corridors.

Europe exhibits the most ambitious decarbonization timetable, with the European Parliament mandating a 90% reduction in new-truck CO₂ by 2040. Germany, France, and the Netherlands already subsidize €50,000-95,000 per zero-emission truck, lifting order books despite macroeconomic headwinds. The Alternative Fuel Infrastructure Regulation guarantees charger availability, easing range anxiety in cross-border lanes that span up to 1,200 km. Scandinavia pioneers' biogas blending mandates, ensuring carriers can reduce lifecycle emissions without changing engines. Eastern European fleets face cost barriers but benefit from EU cohesion-fund programs that co-finance low-carbon vehicle purchases. South America's outlook improves as Brazil's Rota 2030 policy grants tax credits for local electric-truck production, while Chile and Peru explore fast-charge networks to serve copper-mining corridors. Middle East and Africa remain nascent; however, Saudi Arabia's automotive investment program and South Africa's renewable-energy auctions signal future electrification momentum.

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List of Companies Covered in this Report:

Daimler Truck Holding AG / Traton SE / Volvo Group / PACCAR Inc. / Dongfeng Motor Corporation / Tata Motors Ltd / FAW Group Corp. / CNHTC (Sinotruk) / Ashok Leyland Ltd / Isuzu Motors Ltd / Hino Motors Ltd / Navistar International / Iveco Group N.V. / Hyundai Motor Co. / Nikola Corporation / JAC Motors / Kamaz PJSC / Foton Motor Co. Ltd /

Additional Benefits:

 The market estimate (ME) sheet in Excel format /
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