Heavy Duty Trucks Market to climb to USD 396.80 billion, at a CAGR of 5.65% over the forecast period of 2026 to 2035

Operators not simply replacing aging units, recalibrating procurement strategies around total cost of ownership, residual risk, & fuel-pathway uncertainty.

NY, CA, UNITED STATES, June 5, 2026 /EINPresswire.com/ -- The global freight industry is undergoing one of its most consequential transformations in decades. Heavy-duty trucks the backbone of every supply chain, construction corridor, and commodity route on the planet are being pulled simultaneously by surging e-commerce demand, hardening emission mandates, and an accelerating shift toward zero-emission propulsion. The result is a market that is both growing in volume and restructuring its technological foundations at speed.

According to Market Research Future (MRFR), the Heavy Duty Trucks Market reached USD 234.10 billion in 2025 and is projected to climb to USD 396.80 billion by 2035, advancing at a CAGR of 5.65% over the forecast period of 2026 to 2035. Starting from an estimated USD 246.40 billion in 2026, this trajectory is anchored by two structural forces: relentless freight tonnage growth and a wave of fleet renewal driven by tightening emission regulations across the EU, China, and North America.

Operators are not simply replacing aging trucks. They are recalibrating procurement strategies around total cost of ownership, fuel-pathway uncertainty, and residual value risk in a world where the dominant powertrain of the next decade remains genuinely contested.

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The Regulatory Engine: Emission Standards Are Forcing the Issue

No force is reshaping the heavy-duty truck market more comprehensively than emission regulation, and nowhere is it more prescriptive than in the European Union.

The EU's revised CO2 standards for heavy-duty vehicles adopted in May 2024 set binding fleet-average reduction targets of 45% by 2030, 65% by 2035, and 90% by 2040, all measured against a 2019 baseline. The original 2030 target was 30%; the revision nearly doubled the ambition. The updated regulation also widened its scope to cover almost all new heavy-duty vehicles with certified CO2 emissions, including smaller trucks, urban buses, coaches, trailers, and vocational

vehicles. As of March 2026, the EU Council adopted targeted compliance flexibility to allow manufacturers to accumulate emission credits between 2025 and 2029 a measure designed to incentivize earlier deployment of zero-emission vehicles. (Source: International Council on Clean Transportation / ICCT; EU Council press release, consilium.europa.eu, March 30, 2026)

Trucks and buses comprise only about 2% of vehicles on EU roads but are responsible for more than 25% of road transport greenhouse gas emissions a disproportion that explains the regulatory intensity. (Source: EU Council, consilium.europa.eu)

In North America, California's Advanced Clean Trucks (ACT) regulation adopted by the California Air Resources Board in 2020 and effective from model year 2024 requires manufacturers of Class 2b through Class 8 vehicles to sell an increasing share of zero-emission vehicles annually. By 2035, the requirements reach 55% of Class 2b–3 truck sales, 75% of Class 4–8 straight truck sales, and 40% of Class 7–8 tractor sales. Seven states Maryland, Massachusetts, New Jersey, New York, Oregon, Washington, and Vermont have adopted the ACT rule, collectively representing roughly 22% of the national U.S. truck market. (Source: California Air Resources Board, ww2.arb.ca.gov; Rocky Mountain Institute, rmi.org)

MRFR's driver impact analysis estimates that emission regulation tightening contributes approximately 21% impact on the market's CAGR the second-largest driver after freight volume growth.

The Freight Tonnage Imperative

Freight demand is the market's fundamental growth engine. According to the American Trucking Associations' Freight Transportation Forecast 2024 to 2035 produced in collaboration with S&P Global Market Intelligence total U.S. truck tonnage is projected to rise from 11.27 billion tons in 2024 to 13.99 billion tons by 2035, with trucking maintaining approximately 72.7% of total freight tonnage and 76.9% of freight revenue in 2024. Trucking industry revenues are forecast to grow from approximately USD 906 billion in 2024 to USD 1.46 trillion by 2035.

The U.S. Bureau of Transportation Statistics and Federal Highway Administration's Freight Analysis Framework 5 (FAF5) projects that U.S. freight activity will grow by 50% in tonnage to 28.7 billion tons and will double in value by 2050. Trucks currently carry 65% of U.S. freight tonnage and are expected to remain the dominant freight mode throughout the forecast period.

This structural freight growth keeps long-haul fleets running near capacity and compresses replacement cycles. MRFR estimates freight volume growth contributes ~24% impact on the market's CAGR the single largest demand driver.

The Driver Shortage: A Structural Constraint Accelerating Technology Adoption

A persistent shortage of qualified drivers is one of the market's most consequential labor

dynamics and it is deepening.

The American Trucking Associations projects a current shortfall of approximately 82,000 drivers in 2026, rising from 78,000 in 2024. Long-term projections suggest the gap could exceed 160,000 by 2030 if current demographic and recruitment trends continue. The industry will need to hire approximately 1.2 million new drivers over the next decade roughly 120,000 per year simply to replace retirees and keep pace with freight demand. The average U.S. truck driver age stands at approximately 46, and retirements are outpacing new entrants.

The structural labor constraint is accelerating investment in heavy truck autonomous platooning, driver-assist systems, and telematics technologies that extend the productive capacity of the existing driver workforce. MRFR estimates the driver shortage and labor constraints exert a ~17% restraining impact on market CAGR, even as they simultaneously accelerate demand for productivity-enhancing technology.

Market Segmentation: The Technology Transition in Numbers

By Propulsion Type

Diesel propulsion held an 88.5% share of the Heavy Duty Trucks Market in 2025, still the default for long-haul duty cycles where range, refueling speed, and an established service network are non-negotiable. Yet the growth story belongs entirely to zero-emission platforms.

Battery-electric tractors are the fastest-growing propulsion segment, projected to expand at a 35.20% CAGR through 2035. Depot-charging economics, falling pack costs, and rising regulatory pressure are making BEV viable first on return-to-base regional routes the beachhead for broader electrification.

Hydrogen fuel-cell platforms accounted for USD 3.20 billion in 2025, a small but strategic segment gaining traction for long-haul duty cycles where battery weight and charging time are constraints. Europe's hydrogen refueling infrastructure build-out and parallel programs in Japan and South Korea are creating the corridor density required for commercial fuel-cell fleet operations.

By Class

Class 8 vehicles dominate with a 73.0% revenue share in 2025, anchored by tractor-trailer line-haul operations where the Class 8 semi-truck sleeper cab configuration is standard for multi-day routes.

Class 7 is the faster-growing segment at a 7.85% CAGR through 2035, driven by urban distribution and vocational applications that are also the earliest and most economically viable candidates for battery-electric conversion.

By Application

Freight and logistics applications generated USD 130.40 billion in 2025 the market's largest single use case, fueled by e-commerce tonnage growth and long-haul transport demand.

Construction and mining accounted for 21.0% of market share in 2025, providing a steady demand pillar tied to infrastructure pipelines across Asia-Pacific and the Middle East.

Other vocational applications exhibit the fastest growth at an 11.65% CAGR, reflecting specialized fleet demand across agriculture, utilities, and municipal services.

By Sales Channel

OEM first-purchase transactions are growing at a 13.10% CAGR the fastest among sales channels as fleets renew ahead of emission deadlines and seek warranty-backed zero-emission platforms.

The used and aftermarket channel retains a 27.0% share, remaining significant for cost-sensitive operators managing capital constraints.

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Regional Market: Asia Dominates, Europe Regulates, North America Nearshores

Asia-Pacific: The Volume Engine

Asia-Pacific commanded a 44.8% share of the Heavy Duty Trucks Market in 2025 and is the fastest-growing region at an 8.65% CAGR. China combines the world's largest freight base with rapidly scaling electric-truck manufacturing it holds 52.0% of the regional market. India's dedicated freight corridor build-out lifts heavy-vehicle demand and accounts for 17.0% of the region. Japan (11.0%) and South Korea (8.0%) channel investment into hydrogen mobility, making Asia-Pacific a live testbed for every propulsion pathway simultaneously.

Europe: The Regulatory Bellwether

Europe accounts for 25.6% of global market share and sets the compliance pace for OEMs worldwide. Germany anchors the region with 24.0% of European revenue, reflecting its dense manufacturing and logistics base. The UK (14.0%), France (12.5%), Italy (10.5%), and Spain (9.0%) form a core of mature markets where fleet renewal under Euro VII timelines is actively underway. The Nordic countries (8.5%) are early electrification leaders, with fleet adoption ahead of most other markets.

North America: Nearshoring Feeds Freight Demand

North America generated USD 65.20 billion in revenue in 2025, with the United States accounting for 78.0% of the region. Nearshoring-driven freight growth reshoring manufacturing and supply chains closer to U.S. consumers is thickening cross-border tonnage and keeping fleet utilization high. Operators are renewing with diesel platforms while piloting battery-electric units on regional lanes under IRA incentives. Canada (14.5%) and Mexico (7.5%) benefit from cross-border trade expansion and manufacturing export logistics, respectively.

South America: Commodity-Led Demand

South America generated USD 14.80 billion in 2025, with Brazil (62.0%) driving demand through its agribusiness and mining sectors. Agricultural freight and commodity transport sustain long-haul and vocational truck demand, while fleet modernization is gradually displacing aging diesel stock.

Middle East & Africa: Construction and Infrastructure Momentum

The Middle East & Africa is growing at a 6.10% CAGR, propelled by construction megaprojects and mining demand. Saudi Arabia (31.0% of the region) leads on the back of giga-projects, while the UAE (24.0%) supports logistics hub expansion. South Africa (19.0%) sustains demand through mining haulage.

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Key Players in the Market

The Heavy Duty Trucks Market is moderately concentrated, with the top five OEMs estimated to account for 55–62% of global revenue. Key companies include Daimler Truck (Freightliner, Mercedes-Benz, eActros), Traton Group (Scania, MAN, International), Volvo Group (Volvo Trucks, Mack), PACCAR (Kenworth, Peterbilt, DAF), Dongfeng Motor, FAW Jiefang, Tata Motors, Isuzu Motors, and Nikola Corporation. These companies compete on drivetrain technology, digital fleet integration, and zero-emission product roadmap credibility.

Key Restraints: Where the Market Faces Friction

Restraint

Estimated CAGR Impact

Geographic Relevance

Timeline

Charging and refueling infrastructure gaps

~−28%

Global

Medium-term

High upfront cost of zero-emission models

~−24%

Global

Short-term

Diesel price and fuel volatility

~−19%

Global

Short-term

Driver shortage and labor constraints

~−17%

North America, Europe

Medium-term

Residual value uncertainty

~−12%

Global

Long-term

The U.S. National Electric Vehicle Infrastructure program allocates USD 7.5 billion for EV charging,

yet adoption of battery-electric trucks beyond return-to-base duty cycles is constrained by the thin availability of heavy-truck-rated charging sites with sufficient grid capacity along long-haul routes. Sticker price remains a barrier battery-electric and hydrogen fuel-cell tractors carry purchase premiums well above diesel equivalents, and smaller fleets with thin margins are delaying orders despite available incentives.

Emerging Opportunities

Zero-Emission Regional Haulage

The ideal electrification beachhead is return-to-base regional routes. Predictable mileage, centralized depot charging, and overnight dwell time make BEV economics work before long-haul electrification becomes viable. OEMs that integrate vehicles, charging hardware, and energy management into a single commercial offering can capture fleet share ahead of the long-haul transition.

Connected Fleet Data Monetization

Every modern heavy-duty truck is a rolling sensor platform. Telematics, predictive maintenance, and route optimization create recurring software revenue that decouples OEM income from unit sales cycles. Subscription-based fleet analytics including uptime guarantees, fuel-efficiency coaching, and autonomous platooning enablement represent a new business model layered directly onto hardware.

Emerging-Market Fleet Modernization

India, ASEAN, and parts of Africa operate aging fleets with high emissions and rising freight demand. Infrastructure investment and tightening local standards open a modernization opportunity for cost-optimized diesel and, increasingly, electric platforms tailored to emerging-market price points and vocational duty cycles.

Autonomous Platooning and Driver Augmentation

Heavy truck autonomous platooning and SAE Level 2-plus driver assistance simultaneously address labor scarcity and fuel cost. Highway corridors in North America and Europe are the proving ground. OEMs offering platooning-ready hardware position themselves for the productivity gains that fleet operators, constrained by an 82,000-driver shortfall, urgently need.

Future Outlook

Electrification Supercycle: BloombergNEF projects zero-emission models capturing a rising double-digit share of new heavy-truck sales by the early 2030s, with BEV range improvements steadily extending the addressable duty cycle from urban into regional and eventually long-haul

segments.

Hydrogen as Long-Haul Complement: Hydrogen will not replace batteries it will complement them where weight and refueling time matter most. IEA scenarios show fuel-cell trucks gaining traction in long-haul once green hydrogen costs decline and corridor networks reach critical density across Europe and Northeast Asia.

Sustainability Reporting and Fleet ESG: Corporate decarbonization commitments are pushing freight emissions onto the balance sheet. Scope 3 reporting pressures are pushing shippers to demand low-emission carriers, and fleet ESG disclosure is becoming a procurement criterion a competitive differentiator that rewards OEMs supplying verified emissions data and lifecycle analytics.

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