

Electric Truck Market Assessment, By Body Type [Light Duty Electric Truck, Medium Duty Electric Truck, Heavy Duty Electric Truck], By Propulsion [Battery Electric Truck, Fuel Cell Electric Truck, Others], By Range [Up to 150 miles, 151 to 300 Miles, and Above 300 Miles], By Region, Opportunities and Forecast, 2017-2031F

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Abstracts

The global electric truck market is projected to witness a CAGR of 20.32% during the forecast period 2024-2031, growing from USD 10.15 billion in 2023 to USD 44.58 billion in 2031. The market has experienced significant growth in recent years and is expected to maintain a strong pace of expansion in the coming years.

The future of transportation seems electric as commercial vehicles are adopting EV technology. While the electric truck was merely a concept some time back, now it is a reality, reducing carbon emissions and making transportation efficient. The strong batteries, battery management systems, and efficient motors have made electric trucks powerful loaders. The expanding logistics businesses with governments working for green transportation programs are also increasing the adoption of electric trucks in the public and private sectors. The absorption of electric trucks involves dump trucks, forklift trucks, light-duty cargo trucks, heavy-duty trucks, etc. The expanding e-commerce sector is also adopting sustainable transportation measures such as hybrid, electric, and electric cell-based vehicles such as electric trucks and vans. Furthermore, the EV adoption initiatives with authorities subsidizing electric commercial vehicles are expected to drive market growth. As EV batteries keep getting advanced, the shift in average battery capacity has also improved. International Energy Agency (IEA), in its Global EV Outlook 2023, has shared data regarding average battery capacity (kWh)

and the shift between 2019 and 2022. The heavy-duty truck's score changed from 293 kWh in 2019 to 311 kWh in 2022.

Lower Operational Costs and Reduced Maintenance Requirements Fuel Market Growth

Commercial operations involving private or public logistics requirements are adopting the sustainable method of transporting cargo. The higher demand for electric trucks is due to their operational efficiency, increasing diesel prices, and lower maintenance requirements. The logistic giants are adopting a sustainable approach to their operations and adopting heavy-duty and medium-duty trucks. The electric truck requires low maintenance costs as it doesn't have an engine system. The advanced electric propulsion with motor sensors monitors the battery systems along with the battery management system. Advanced technologies like these provide electric trucks with an edge over diesel trucks. Governments around the world are trying to limit their carbon emissions and hence refining diesel engines or replacing them with electric vehicles. This is expected to fuel the sales of electric trucks during the forecast period.

Another example of a low-maintenance electric truck is Rizon. Working on lithium iron phosphate battery technology, Daimler Truck Holding AG launched Rizon with its class 4 and class 5 medium-duty trucks in April 2023. The truck has lower maintenance costs that are expected to fuel its sales in the United States market.

Proliferation in Heavy-Duty Charging Stations and Effective Service to Propel Market Growth

Electric battery and automotive brands are electrifying the truck routes in the potential regions. This is adding ease to the e-truck riders in hassle-free operations. The growing electric truck fleet depends upon the charging structure and service on cargo routes. As EV brands grow with higher sales of heavy and medium-duty electric vehicles like buses and trucks, companies tend to extend their service area and install a greater number of charging stations across countries. In December 2023, Uber Freight and Greenlane teamed up to electrify America's trucking routes with the deployment of heavy-duty charging stations across the country. The partnership is expected to add Uber Freight's logistical insights to Greenlane's experience in commercial electric charging infrastructure.

Governments around the world are also investing in heavy-duty charging infrastructure to minimize tailpipe emissions. For instance, in July 2023, the Dutch government funded a consortium to install Charging Energy Hubs in the nation. The consortium involves

twenty-nine partners including local companies such as Shell and DAF.

Government Subsidies and Higher Investments to Limit Emissions Norms Driving Market Growth

Governments around the world are limiting carbon emissions through different measures and hence promoting electric and hybrid vehicles among the public and private sectors. Furthermore, the government has subsidized passenger and commercial electric vehicles since its advent. However, there have been some subsidy cuts in recent years, but it hasn't slowed EV sales across countries. Alongside, the government is also building the heavy-duty charging infrastructure and investing in its deployment. Apart from the passenger EV charging spots, the authorities are heavily investing in commercial charging setups. The authorities help the company build core infrastructure, solar canopies, and battery energy storage systems.

In July 2023, the US state of Michigan announced that it will set up a mobility charging hub in the Redford facility of Daimler Trucks. The setup will be on 130 acres of land. The location witnesses 10,000 medium- and heavy-duty trucks per day, and hence, the setup is likely to cater to these drivers.

Increased E-Commerce Operations and Higher ROI to Increase the Sales of Heavy-Duty Trucks

Based on body type, heavy-duty commercial trucks perform significantly better. The growth is attributed to the rising e-commerce adoption of electric and hybrid vehicles. The heavy-duty carriers comprise a capacity of 16 tons to 49 tons, providing a better return on investment (ROI). The extended heavy-duty charging spots also fuel the demand for heavy-duty electric trucks. Several heavy-duty vehicle distributors are helping the electric truck brands to penetrate different potential markets. The expanding logistic businesses with sustainable operational ranges are also adopting heavy-duty trucks with no tailpipe emission.

For example, in June 2023, the Al-Futtaim Auto & Machinery Company (FAMCO) launched the first-ever heavy-duty electric truck range in the Middle East and UAE. The range has been developed to build a sustainable future of transport and mobility in the UAE.

Besides enhancing the distribution, new battery technology is being developed to increase the distance range. In April 2023, Automotive brands Scania and Northvolt

launched a jointly developed battery cell serving heavy-duty electric vehicles. The battery delivers a lifetime range of 1.5 million kilometers.

Asia-Pacific Dominates Electric Truck Market

Asia-Pacific is expected to hold a significant market share during the forecast period while North America follows up regarding the market hold. Emerging economies of the Asia-Pacific region like China and India are building the infrastructure to deploy commercial electric vehicles. These countries provide several subsidies on different body types and ranges of commercial electric vehicles. In November 2023, India unraveled a plan worth USD 960 million for boosting electric vehicle battery production. The target is establishing advanced battery plants with an outcome of 20-gigawatt hours. The increased sales of commercial electric vehicles are attributed to the high fuel prices, local EV startups, and strong government support to both manufacturers and end users. Advanced battery technology like battery swapping systems or battery management systems is propelling and helping the market expand its regional boundaries.

China led the race to electric trucks as it sold 36,000 electric trucks in 2022. The factor attributing to the higher sales of these electric trucks is battery swapping technology. In 2022, more than 49.5 % of the total electric truck sales in China came from swap-capable vehicles. Swap-capable electric vehicles are majorly used for short-distance operations at ports, mines, and urban logistics.

Future Market Scenario (2024 – 2031F)

Autonomous or self-driving commercial trucks with electric propulsion are anticipated to perform well in the global market.

Advanced battery technologies like battery swapping, heavy-duty fast charging, and battery management systems are likely to impact the market positively.

E-commerce and logistic businesses advancing their transportation measures are expected to add new electric truck fleets to their operations.

The proliferation of commercial charging stations for truck routes across states and countries will boost the electric truck market globally.

Key Players Landscape and Outlook

Key participants in the electric truck market focus on supply chains, advanced technology, and higher loading capacity. Apart from the properties, the companies compete to undertake government projects and funds for building EV charging infrastructures. Key players collaborate, partner, and acquire companies working for enhanced technology to upscale their vehicles. Mergers between brands to extend charging and service range also add value to the global market.

In December 2023, Triton EV selected Ward Wizard Innovation and Mobility as its manufacturing partner for battery-operated trucks in India and the UAE. The partnership will focus on the sales of commercial EVs in these regions.

In January 2023, Adani Enterprises Limited signed an agreement with Canada's Ballard Power and Ashok Leyland to develop a hydrogen fuel cell electric truck (FCET). The truck is being developed for mining logistics and transportation.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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