



ELECTRIC TRUCK MANUFACTURING AND FUTURE OUTLOOK

CASE STUDY/INSIGHT

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Road freight transportations are the dominant GHG emission stakeholder worldwide with a share of 2.9 Gigatons of emissions. To achieve sustainable development, countries of the world have started investments in electric vehicles. Several new policies and amendments have been put forth worldwide to achieve versatile growth towards a greener environment. Several countries have planned to impose road pricing for freight in their upcoming years. This measure has already been followed by several countries of the European Union. Fuel economy standard is a prominent measure adopted in countries worldwide.

New policies and the projections by 2030 make China the pioneer with the share of EV sales of around 57 %. Next comes Europe and Japan together contributing to a percentage equal to that of China. Canada in North America and California in the US are taking forward the policy for EVs aggressively. Other parts of the US show less progress in adopting Electric vehicles, especially Heavy Electric Vehicles (HEVs).



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The EU has enacted stringent measures in the emission standards for new heavy-duty vehicles to be 15% low by 2025 against 2019. The European Automobile Manufacturers Association (ACEA) has projected 200,000 electric trucks to start on the road by 2030. At the same time, California has set a goal of 54,000 electric trucks by 2025. The major obstacle faced in implementing electric vehicles is the infrastructure development in charging stations.



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Unlike electric cars, the battery weight is not an issue in electric vehicles; the charging capacity is the critical parameter that needs to be considered in battery technology developments. The charging stations that provide a wide range of flexibility in charging are mandatory. For a typical truck, a battery of 300 kWh for medium-duty and 990 kWh for heavy-duty needs to be charged based on their operation.

Now, a medium-duty electric truck takes six hours to charge at a 50 kW fast charging station. Obviously, for better mobility of electric trucks, the charging station's capacity needs to be developed drastically. Other technological enhancements have also been attained in the electric trucks, E.g., in China, the incorporation of fuel cell technology in more than 400 trucks is under progress.

One of the pioneer industries to adopt electric trucks is the logistic sector. Though the advancements in infrastructure development and battery technology are crucial for electric vehicle deployment on a large scale, the projected reduction in CO₂ emissions was estimated as 2.3 Gigatons by 2030, which is a very promising step towards the green development initiative worldwide.

Source: IEA, ACEA, IRENA