Bridging the Infrastructure Gap: Why Hybrid Trucks Keep Fleets Moving When Charging Doesn’t

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picture: Pixabay

The transition to zero-emission transport is accelerating — but not evenly. BloombergNEF’s Zero-Emission Commercial Vehicles Factbook paints a striking picture of imbalance: while electric truck technology is advancing rapidly, charging infrastructure and energy economics are struggling to keep pace.

For fleets operating across Europe and beyond, this creates a simple but serious challenge: the trucks are ready, but the grid isn’t. That’s where hybridisation steps in — not as a temporary bridge, but as a long-term resilience strategy that makes clean transport work in the real world.

Europe’s Charging Challenge

According to BloombergNEF, the average cost of fast public charging for commercial

vehicles in Europe is around $0.70 per kilowatt-hour, with prices reaching up to $0.81/kWh in some markets — nearly three times higher than industrial electricity tariffs .

While depot charging can help reduce costs, most fleets cannot rely solely on private infrastructure, especially for regional or long-haul operations.

At the same time, the rollout of public truck charging stations under the Alternative Fuels Infrastructure Regulation (AFIR) remains uneven across member states . Even as governments invest billions, the density and reliability of charging networks still vary widely.

The reality is simple: infrastructure will always evolve at different speeds — and fleets need solutions that can adapt to that variability.

The Cost Equation

Bloomberg’s analysis highlights that public charging costs and electricity prices remain a key barrier to electric truck competitiveness. The total cost of ownership for heavy-duty BEVs still depends heavily on where and how they charge .

Diesel and electricity price fluctuations, regional policy differences, and grid access constraints all add uncertainty for fleet operators. Hybrids, by contrast, allow fleets to electrify operations without becoming dependent on those variables.

They combine electric capability for urban zero-emission zones with efficient combustion for longer routes — keeping logistics predictable, efficient, and sustainable.

Hybridisation as a Long-Term Advantage

Hybrid trucks are often described as a “transition” technology, but BloombergNEF’s broader market data tells another story.

With battery costs still differing widely across regions — roughly $90 per kWh in China versus about $190 per kWh in Europe and the U.S. — and charging prices remaining volatile, full electrification will take different forms in different markets .

That makes hybridisation not just a bridge, but a permanent pillar of a diverse energy landscape. It offers a stable and scalable pathway to emissions reduction —

one that works under a range of market conditions, policies, and duty cycles.

Flexibility That Strengthens the System

BloombergNEF also identifies ongoing concerns around battery degradation, residual values, and lifecycle risks for electric trucks .

Hybrids mitigate these challenges by relying on smaller battery packs and established powertrain technology, reducing both capital investment and financial risk.

For fleets with mixed operations — city deliveries, regional distribution, and long-distance haulage — hybrids provide flexibility that pure BEVs cannot yet match. And that flexibility will continue to matter, even as infrastructure grows and technologies evolve.

Conclusion

BloombergNEF’s findings make one thing clear: the energy transition in freight transport will be complex, adaptive, and long-term.

Hybrid trucks embody that adaptability. They ensure progress doesn’t wait for perfect conditions, balancing efficiency, range, and resilience across an evolving energy system.

Far from being temporary, hybridisation is becoming a cornerstone of sustainable logistics — keeping the transition not only alive, but moving.

Read more: Zero-Emission-Commercial-Vehicles-Factbook-2025.pdf