

Paying the Bill:

THE COST OF ELECTRIFYING THE SUPPLY CHAIN

The Clean Freight Coalition commissioned a study by Roland Berger to forecast a realistic electricity infrastructure buildout for medium- and heavy-duty battery-electric vehicles.

KEY TAKEAWAYS:

- Preparing today’s commercial vehicle fleet for electrification would cost upwards of \$620 billion of investment in charging infrastructure alone, including chargers, site infrastructure, and electric service upgrades.
- Utility companies and the government will need to invest \$370 billion to upgrade their distribution grid networks to meet the demands of just commercial vehicles.
- This nearly \$1 trillion expenditure does not account for the cost of new battery-electric trucks, which according to market research can be 2-3 times as expensive as their diesel-powered equivalents.
- Policymakers will need to address these cost concerns and infrastructure hurdles to make an electrified supply chain function smoothly for the American economy.
- While medium-duty vehicles will face fewer roadblocks, economic and operational constraints make electrification very challenging for the heavy-duty segment, and significant improvements in battery range and charging infrastructure capabilities would be needed to support a path for the electrification of long-haul vehicles.



Heavy-Duty



Medium-Duty

Heavy-duty vehicles require **3x infrastructure investment** per vehicle compared to medium-duty for depot charging

Commercial Vehicle Industry:



Utility Companies:



Ratepayers & Consumers:



METHODOLOGY: Roland Berger calculated these costs based on modeling a commercial fleet with today’s technology compared to a fleet with modest but realistic performance improvements. The team then went county-by-county and modeled vehicle populations and projected electricity usage to identify areas in need of investment to support those fleets.