ENDEAVOR BUSINESS INTELLIGENCE

Can the Grid Keep Up With Heavy-Duty EVs?

Pulse Survey

Sept 2026

METHODOLOGY

This survey was conducted online between August 14 and September 8, 2026. A total of 100 respondents participated.

The survey was fielded among professionals across the commercial vehicle, energy and infrastructure industries, reached through EndeavorB2B and its affiliated industry communities, representing a range of roles and perspectives related to heavy-duty vehicle electrification.

Respondents included fleet operators, trucking and logistics professionals, electric utilities, engineering and consulting firms, government and municipal organizations, and other stakeholders involved in transportation, energy and infrastructure.

The survey explored the readiness of local electrical infrastructure to support widespread heavy-duty EV charging, the barriers and costs associated with deploying megawatt charging systems, expected infrastructure timelines, and strategies for reducing grid strain as charging demand expands. All responses were collected anonymously and are reported in aggregate.

KEY INSIGHTS

ENDEAVOR BUSINESS INTELLIGENCE

1 The grid is the biggest constraint.
65% identify limited grid capacity as a top barrier to MCS deployment, and 28% expect it to be the biggest limitation to heavy-duty EV adoption over the next five years.

2 Infrastructure isn't keeping pace.
Only 9% are confident local infrastructure could support charging for 50 Class 8 electric trucks within their desired timeline. 58% are not at all confident.

3 The real costs go beyond the charger.
73% point to new transformers or substations and 64% to utility service upgrades as major cost drivers.

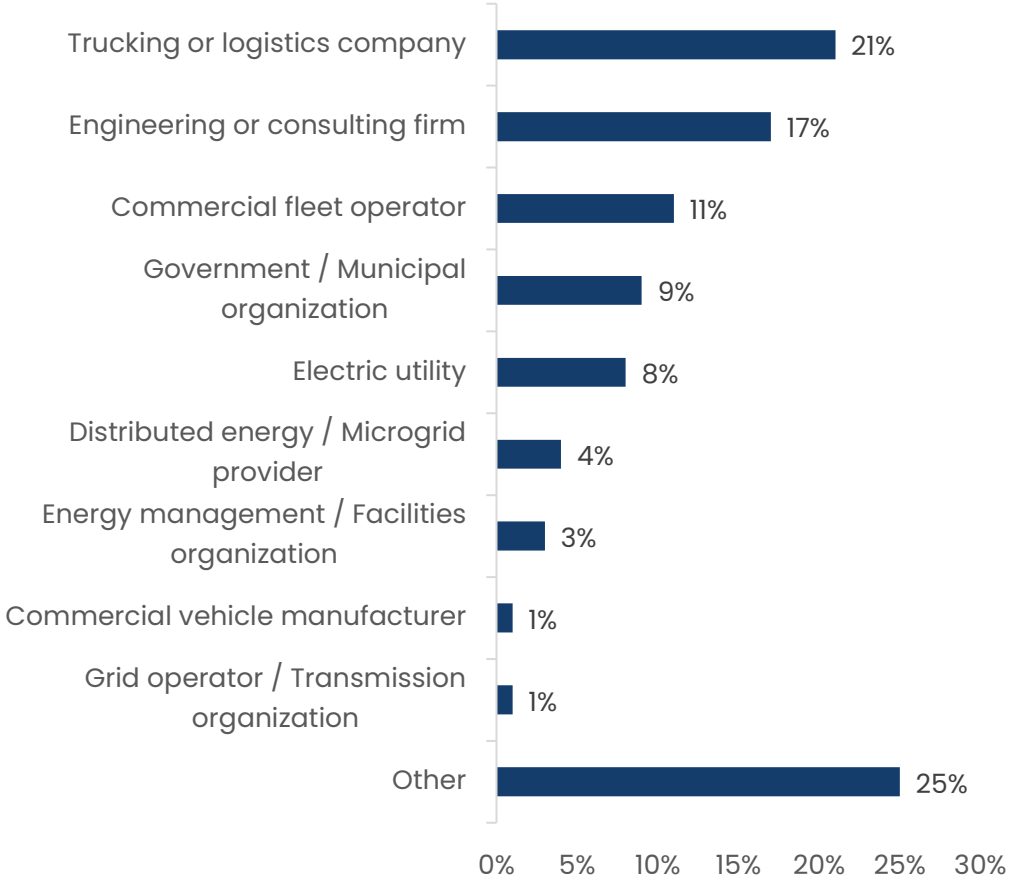
4 Getting the power can take years.
Among those who provided an estimate, 60% say securing sufficient electrical capacity takes two years or more, making infrastructure timing a major planning challenge.

5 The call is for action.
Open-ended responses point to a need for more generation and grid capacity, faster permitting and interconnection, government support and better coordination across the industry.

6 There is no single fix.
Battery storage, transmission investment, managed charging and microgrids rank among the top strategies for reducing grid strain.

RESPONDENT ROLES

Which best describes your organization's primary role?



A CROSS-SECTION OF ENERGY AND TRANSPORTATION STAKEHOLDERS

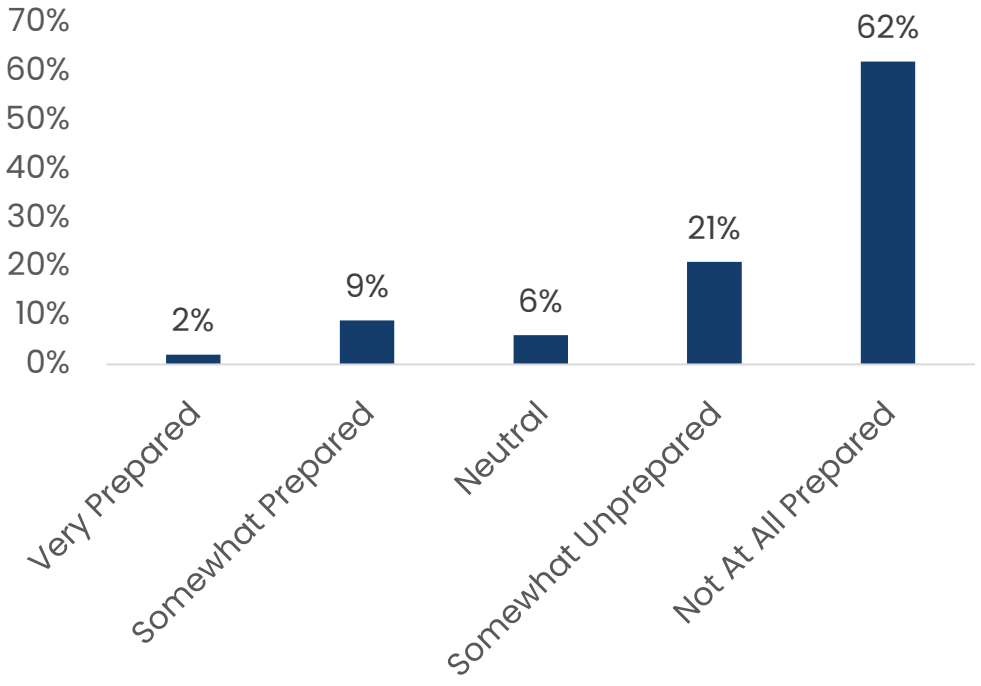
The survey brought together perspectives from across the commercial vehicle, energy and infrastructure ecosystem. Trucking and logistics companies represented 21% of respondents, while commercial fleet operators accounted for another 11%. Engineering and consulting firms made up 17%, with government and municipal organizations at 9% and electric utilities at 8%.

The range of respondents provides a view of heavy-duty electrification from both the transportation and infrastructure sides, including those responsible for operating fleets, planning infrastructure and supporting the transition.

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

GRID READINESS

How prepared do you believe local electrical infrastructure is to support widespread deployment of heavy-duty electric vehicle charging?



THE GRID ISN'T READY FOR WHAT'S COMING

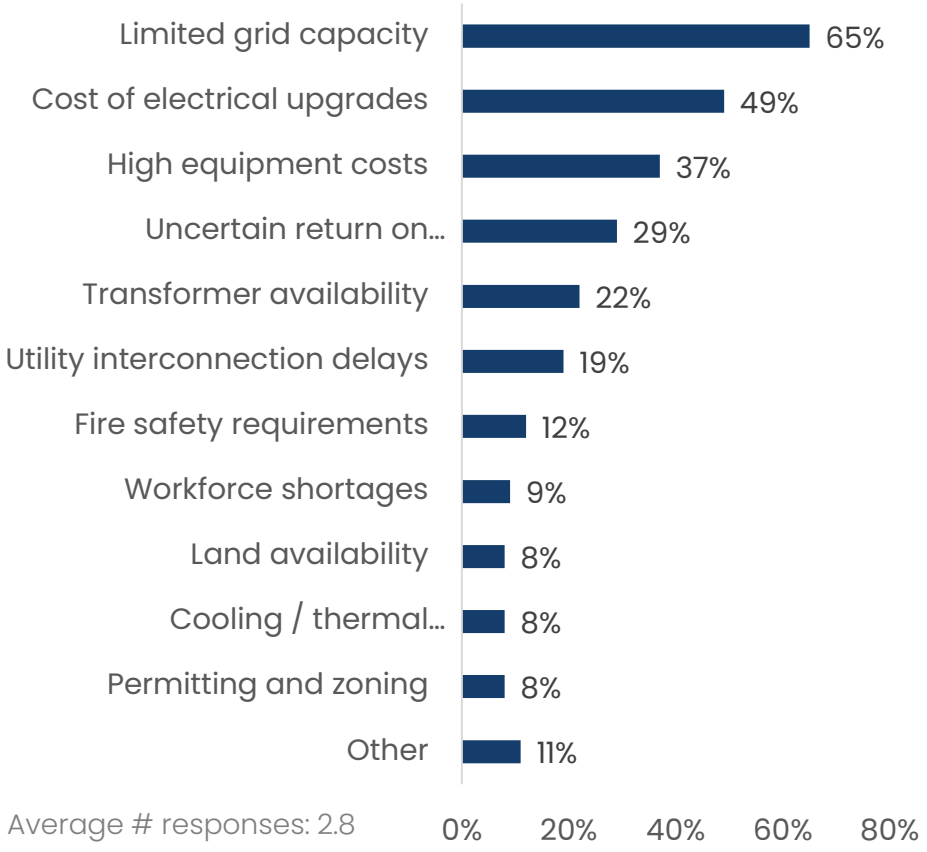
Confidence in local electrical infrastructure is notably low. Nearly two-thirds of respondents (62%) say their local grid is not at all prepared to support widespread heavy-duty EV charging, while another 21% consider it somewhat unprepared. Only 11% rate current infrastructure as somewhat or very prepared. This isn't a fringe concern from one side of the industry; it reflects a near-consensus view across fleet operators, utilities, and adjacent stakeholders alike.

The findings validate the core premise that grid capacity, not vehicle availability or fleet willingness, is the binding constraint on heavy-duty electrification, and suggest the "power-utility manager" burden being pushed onto fleets isn't a hypothetical future problem but a present-day operational reality.

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

MCS DEPLOYMENT BARRIERS

Which challenges do you believe will create the biggest barriers to deploying megawatt charging systems for heavy-duty fleets? (Select up to three)



CAPACITY IS THE CLEAR BOTTLENECK

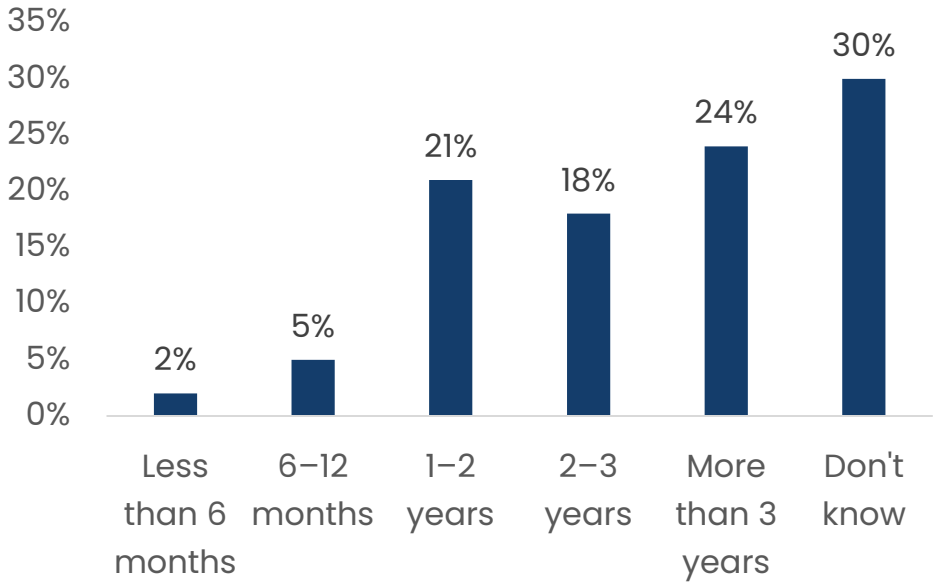
Limited grid capacity stands out as the dominant barrier to deploying megawatt charging systems (MCS), cited by 65% of respondents. The next biggest concerns are the cost of electrical upgrades (49%), high equipment costs (37%) and uncertain return on investment (29%). Respondents selected an average of 2.7 barriers each, showing that the challenge is multifaceted, but grid capacity rises above the rest. Write-in responses reinforce the infrastructure concern, pointing to insufficient electricity generation and distribution capacity, aging infrastructure and limited flexibility in connecting new demand.

Scaling MCS isn't simply about installing chargers. It's about having enough power, infrastructure and investment to support them.

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

THE TIMELINE GAP

In your opinion, how long does it typically take to secure sufficient electrical capacity for a new heavy-duty charging depot?



GETTING THE POWER CAN TAKE YEARS

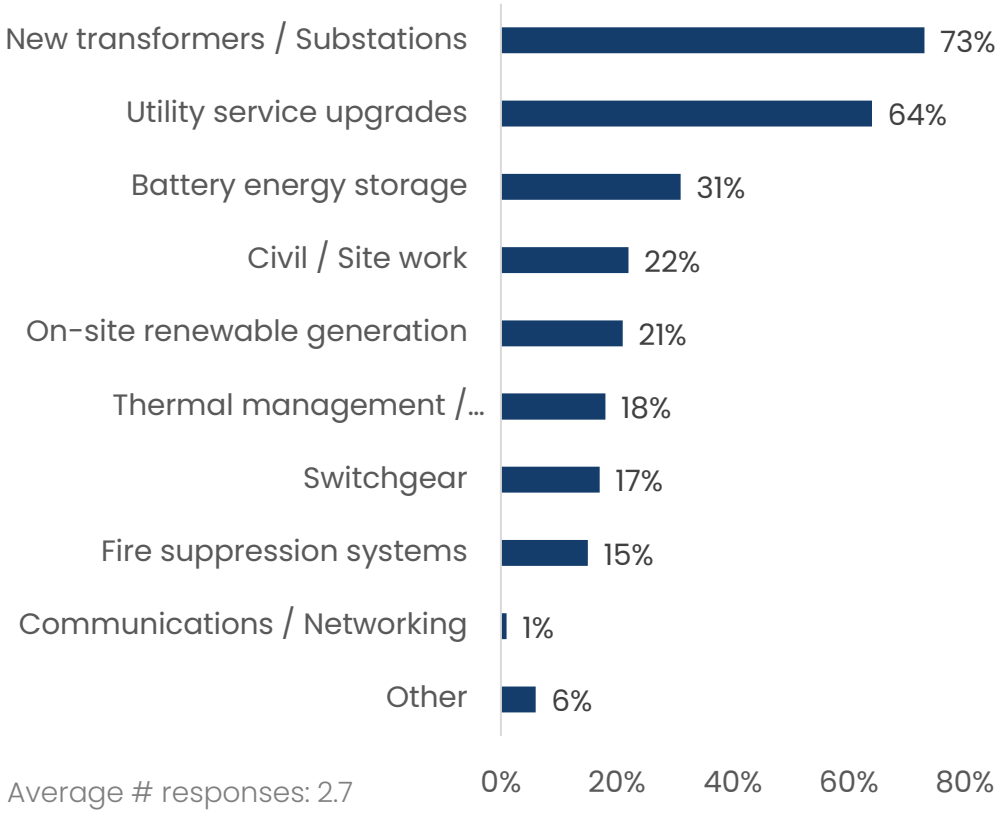
Securing sufficient electrical capacity is rarely a quick process. Among respondents who provided an estimate, 60% say it typically takes two years or more, including 24% who say it takes more than three years. Only 7% believe capacity can be secured within 12 months. And notably, 30% don't know how long the process takes, highlighting just how opaque the path to grid capacity can be.

Together, these findings point to a planning problem as much as an infrastructure one: fleets trying to sequence vehicle purchases with depot readiness are working against a timeline that even close observers can't reliably forecast. For fleets planning major electrification investments, knowing when the trucks will arrive may be only half the equation.

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

HIDDEN INFRASTRUCTURE COSTS

Which infrastructure investments are most likely to drive project costs beyond the charging equipment itself? (Select up to three)



Average # responses: 2.7

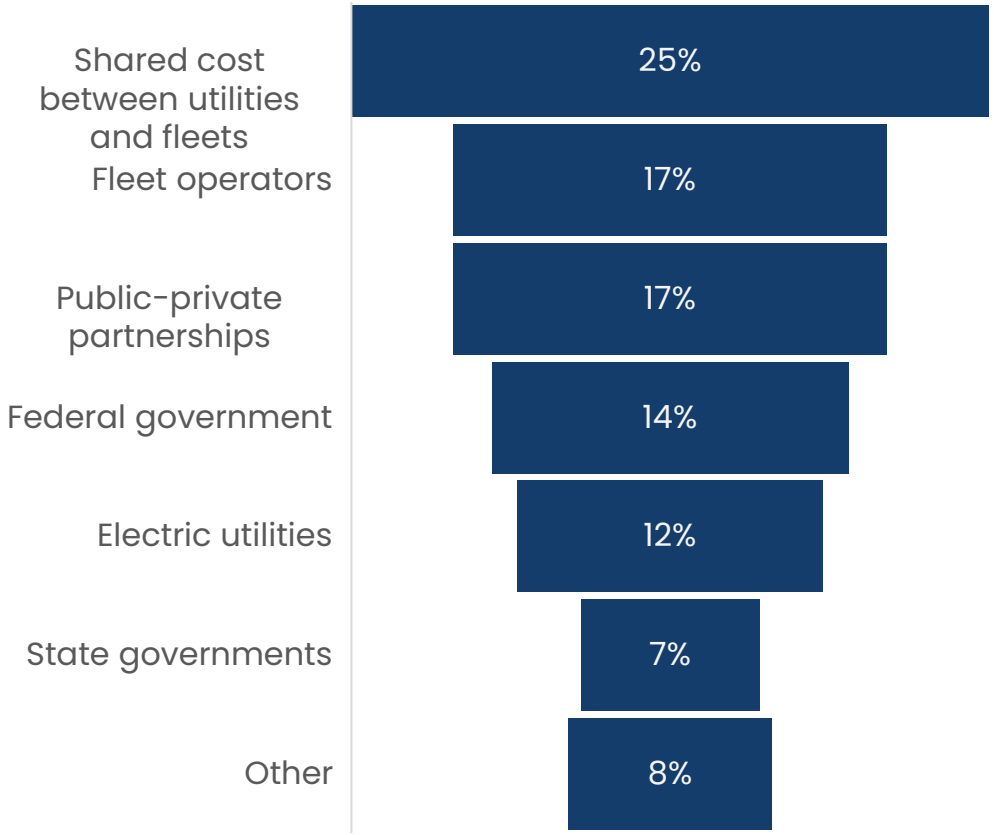
TRANSFORMERS AND UTILITY UPGRADES DRIVE HIDDEN COSTS

New transformers and substations emerge as the biggest infrastructure cost driver, cited by 73% of respondents, followed closely by utility service upgrades at 64%. Battery energy storage is a distant third at 31%, while civil/site work, renewable generation and thermal management each fall in the 18% to 22% range. The findings reinforce a key point from the previous questions: the cost of deploying heavy-duty charging extends well beyond the charging equipment itself, from the depot's own grid connection to the power generation feeding it. A few write-ins add texture, from competition with data centers for grid capacity to broader skepticism about the economics of depot electrification today.

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

WHO PAYS FOR GRID UPGRADES

Who should bear the majority of the cost for grid upgrades required to support heavy-duty fleet electrification?



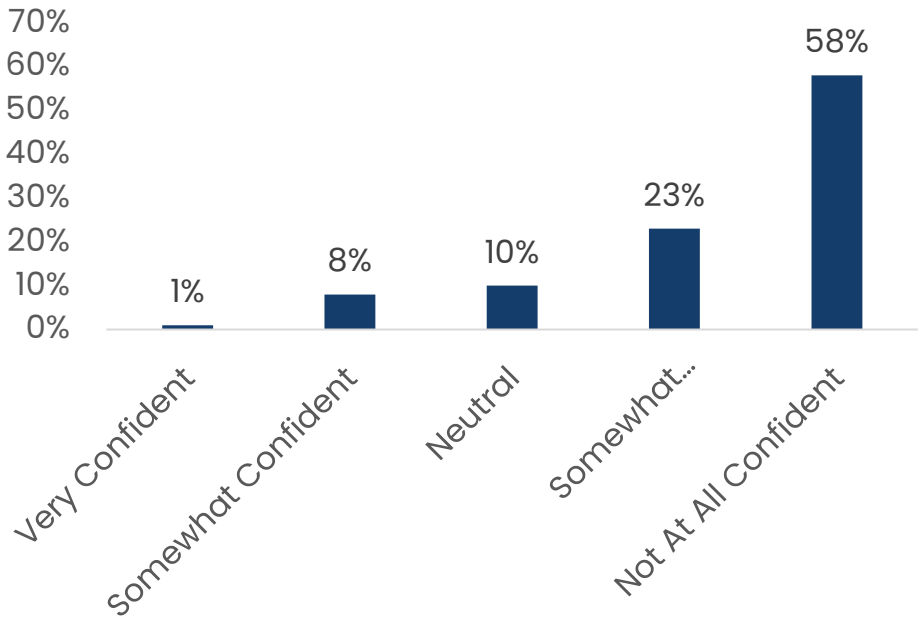
SHARED COST MODELS LEAD, BUT BARELY

Opinion on who should foot the bill for grid upgrades is notably fragmented, with no single option earning majority support. The spread suggests there's little agreement on whether the burden should fall on those deploying the vehicles, those delivering the power, or the public sector - reinforcing that cost allocation remains an unresolved policy question. Write-in responses lean skeptical in tone, with several pointing to "whoever mandates it" or environmental advocates as responsible parties, and one respondent predicting costs will ultimately be passed to consumers, compounding existing affordability concerns. A few pointed to an underlying prerequisite instead of a payer, namely, that manufacturers need to solve range limitations before the cost question is even fully relevant.

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

THE 50-TRUCK TEST

If a fleet purchased 50 Class 8 electric trucks today, how confident are you that local infrastructure could support charging within the fleet's desired deployment timeline?



THE GRID ISN'T READY WHEN FLEETS NEED IT

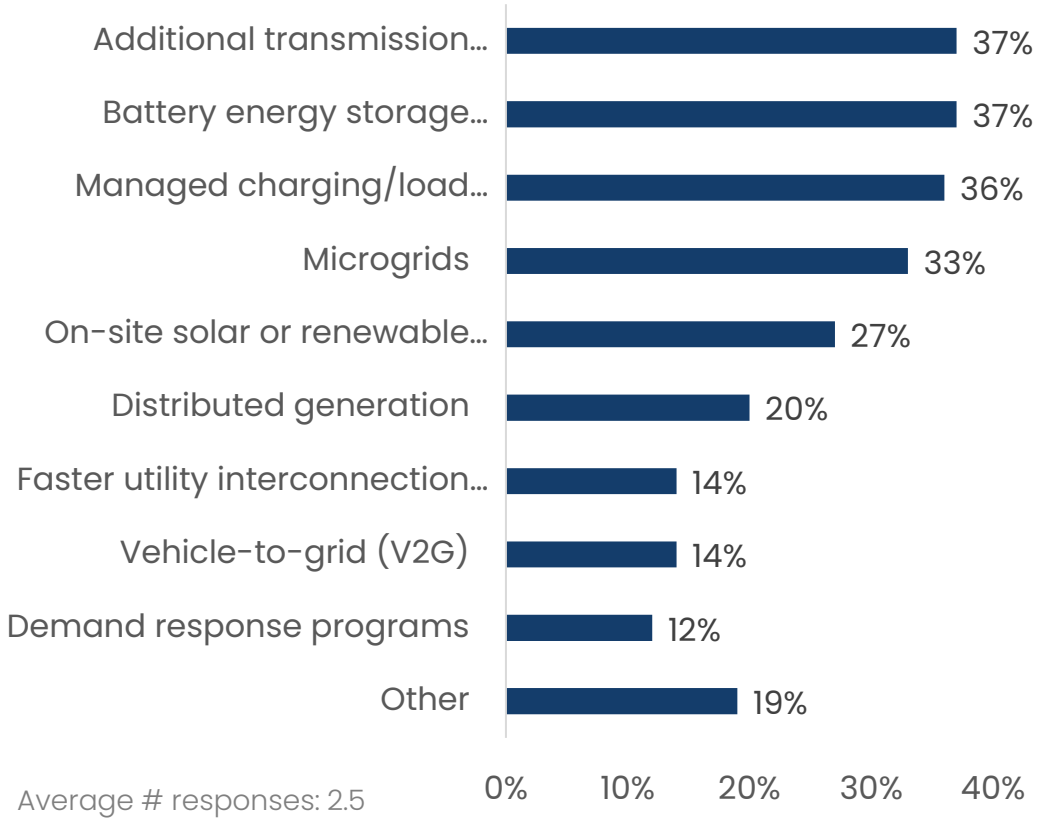
When asked to picture a concrete deployment scenario, a fleet purchasing 50 Class 8 electric trucks today, confidence in local infrastructure collapses even further than in the general readiness question earlier in the survey. 58% say they are "not at all confident" the grid could support charging within the fleet's desired timeline, and another 23% are "somewhat unconfident," a combined 81%. Only 9% express any degree of confidence.

Putting a specific number on the fleet size seems to sharpen respondents' skepticism, underscoring that the gap between purchasing decisions and power delivery isn't an abstract industry concern, it's a concrete, near-universal expectation of delay at the scale fleets are actually planning around.

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

THE PATH FORWARD

Which strategies do you believe will be most important for reducing strain on the electrical grid as heavy-duty charging expands? (Select up to three)



Average # responses: 2.5

SOLVING THE GRID CHALLENGE WILL TAKE MORE THAN ONE SOLUTION

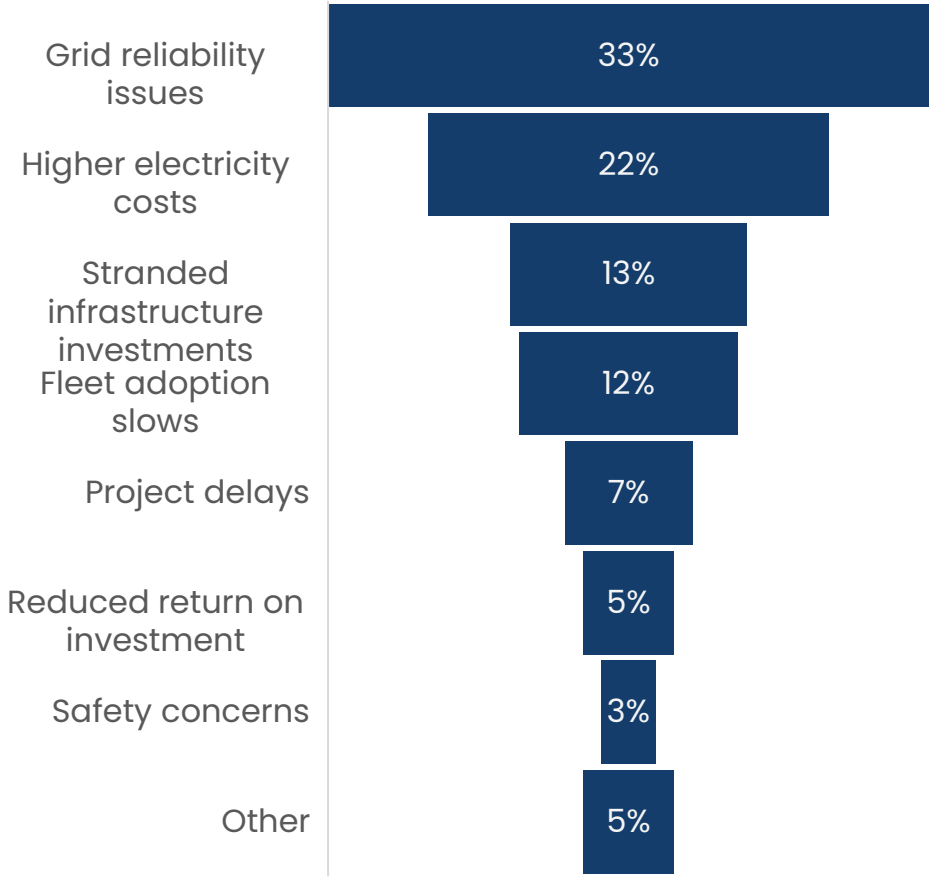
Respondents point to a range of strategies for reducing strain as heavy-duty charging expands. Battery energy storage and additional transmission investment each rank among the top choices at 37%, followed closely by managed charging and load shifting at 36% and microgrids at 33%. On-site renewable generation also has a role, cited by 27% of respondents, while distributed generation was selected by 20%.

Write-in responses further point to the need for additional generation capacity, alternative power sources and policies that encourage utilities to accelerate grid investment.

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

WHEN THE GRID FALLS BEHIND

What do you see as the greatest risk if charging infrastructure deployment outpaces grid readiness?



GRID RELIABILITY IS THE TOP FEARED CONSEQUENCE

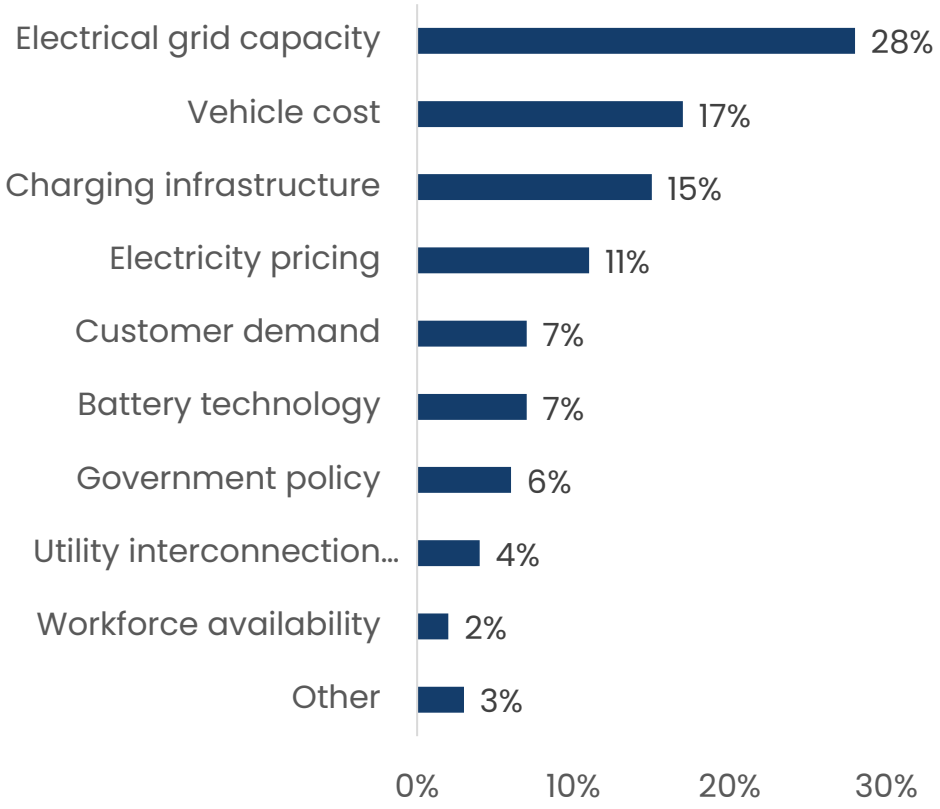
Grid reliability issues (33%) stand out as the top-cited risk of charging infrastructure outpacing grid readiness, well ahead of higher electricity costs (22%) and stranded infrastructure investments (13%). Fleet adoption slowing (12%) and project delays (7%) trail behind, suggesting most respondents see the immediate danger as technical and financial strain on the grid itself rather than a slowdown in electrification momentum.

The write-in responses add a notable wrinkle: one respondent flagged competing data center demand as a risk factor, echoing a theme from earlier in the survey where depots may be competing with other massive power draws for the same limited capacity. Another respondent pushed back on the premise entirely, arguing infrastructure deployment can't realistically outpace the grid, implying that, in practice, the grid itself will act as the limiting factor no matter how fast fleets try to move.

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

THE FIVE-YEAR OUTLOOK

Looking ahead five years, what do you expect will be the biggest limiting factor to widespread heavy-duty EV adoption?



Source: Endeavor Business Intelligence Pulse Survey, Sept 2026

GRID CAPACITY COULD BE THE CEILING ON EV ADOPTION

Looking ahead five years, electrical grid capacity stands out as the biggest expected constraint on widespread heavy-duty EV adoption, cited by 28% of respondents. Vehicle cost follows at 17%, while charging infrastructure is cited by 15% and electricity pricing by 11%. Taken together, 44% point to either grid capacity, charging infrastructure or electricity pricing as the biggest limiting factor, reinforcing that the challenge extends beyond the vehicles themselves. Write-in responses add a note of skepticism, with a few respondents questioning whether battery-electric technology is the right path for heavy-duty transportation and pointing to alternatives such as hydrogen and hybrid technology.

WHAT NEEDS TO CHANGE

What one action would most accelerate successful deployment of megawatt charging infrastructure for heavy-duty vehicles? (write-in)

NO SILVER BULLET – RESPONDENTS SPLIT

No single action dominates; responses cluster into three camps. The largest calls for expanding and modernizing the grid itself: new generation, transmission upgrades, and faster permitting. A second points to policy and funding, from federal legislation to coordinated "fast lane" permitting for priority freight sites. A third, more skeptical camp questions electrification altogether, favoring hydrogen or diesel, citing range anxiety and unresolved battery concerns. Several responses echo an earlier survey theme: data centers are already competing for, and winning, scarce grid capacity. Overall, most respondents see this as a multi-front problem, no single lever is enough on its own.

- *"The current grid infrastructure is not prepared in its current capacity to handle an increase in power. Gary, Indiana has been without power for over 2 weeks, because Data Centers are taking most, if not all its grid power."*
- *"It will take a multi layered approach with battery storage, transmission with fire mitigation, and sensible regulation. No one approach is enough."*
- *"Governmental legislation pertaining specifically to efficiency in load management and utility power access. The marketplace is currently a 'free for all' with no oversight or long-term planning."*

Source: Endeavor Business Intelligence Pulse Survey, Sept 2026