

Meeting ZEV Charging Needs While Addressing Grid Constraints: Some Issues and principles for MDHVs

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MHDVs are very different than LDVs



1. Very **concentrated** pollution: Majority of transportation NO_x/PM + nearly ¼ of GHG, with only 4% of vehicles
2. **Diverse use** cases: Good/people mvmt, vocational; class 2b-8
3. Operated by commercial fleet operators that use **rigorous selection criteria**: \$/mile TCO and systematic risk avoidance
4. **High loads** per vehicle (40-500 kW) x multiple vehicles per fleet
5. Distribution of 1.5M vehicles within fleet follow **90/10 rule**
6. **Benefit communities** more than fleets who operate them

Rate Design Principles to Accelerate Widespread Adoption of MDHVs

1.

Recognize that MHD EV issues and needs are distinct from those of LDVs

3.

Create rate options to reduce the threat of cost spikes by minimizing the impact of very high demand charges

5.

Treat large fleets as a specific target class, and make high MHD EV diffusion in the largest fleets a policy goal

2.

While encouraging some companies to conserve building energy, encourage MHD EV energy use as an alternative to diesel

4.

Create rate options to make the overall average per-mile cost attractive via TOU rates or other inducements

6.

Offer multiple rates that target additional segments and duty cycles for commercial vehicle operators